

DEAN'S OFFICE 20034

December 17, 2003

Mr. George W. Cross
President and Chief Operations Officer
Intermountain Power Service Corporation
850 West Brush Wellman Road
Delta, UT 84624-9546

Attention: Bret Kent
Contract Administrator

Intermountain Power Service Corporation
Secondary Air Preheater Element Replacement Hardware
Intermountain Power Service Corporation Contract Number: 04-45615
Air Preheater Company Contract: 03062597/03062713

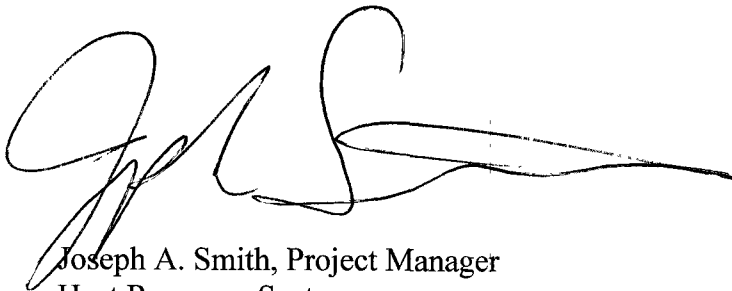
Enclosed find (10) ten copies of the following air heater erection drawings:

D-10031472, Clearflow Rotor Modifications *Rev 0*
~~D-10031472~~, Hot & Cold Seal Clearance Gauge Assembly *Rev 0*
10041246

This transmittal completes the air heater erection drawing package.

Sincerely,

ALSTOM POWER INC.
AIR PREHEATER COMPANY



Joseph A. Smith, Project Manager
Heat Recovery Systems
Enclosure
Courier service (435-864-6447)

IP7_033822

December 12, 2003

Mr. George W. Cross
President and Chief Operations Officer
Intermountain Power Service Corporation
850 West Brush Wellman Road
Delta, UT 84624-9546

Attention: Bret Kent
Contract Administrator

Intermountain Power Service Corporation
Secondary Air Preheater Element Replacement Hardware
Intermountain Power Service Corporation Contract Number: 04-45615
Air Preheater Company Contract: 03062597/03062713

Enclosed find (10) ten copies of the following air heater erection drawings:

C-80030675, Basket Sealing Bar Arrangement *Rev 0*
A-80030674, Basket Arrangement *Rev 0*
C-65357-P, General Welding Specifications
H-78077-A, Radial Seal Assembly
C-78075, Axial Seal Assembly *Rev 0*
C-99297-A, EE-ZEE™ Bypass Seal Field Assembly
E-98856, Decimal to Fractional Reference Table *Rev 0*
E-99502, Lifting Arrangement *Rev 0*

The following air heater erection drawings, will be complete and transmitted by
December 17, 2003:

Seal Gages
Rotor modifications

Sincerely,

ALSTOM POWER INC.
AIR PREHEATER COMPANY



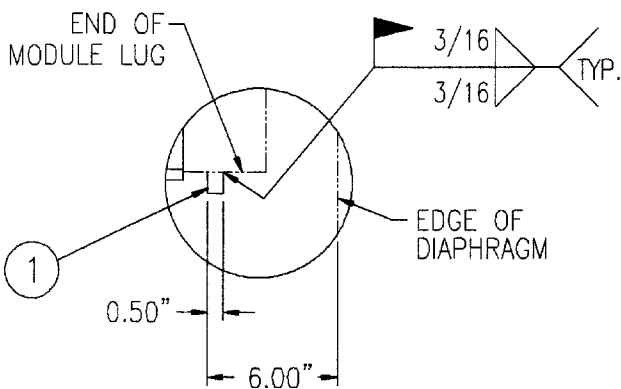
Joseph A. Smith, Project Manager
Heat Recovery Systems
Enclosure
Courier service (435-864-6447)

IP7_033823

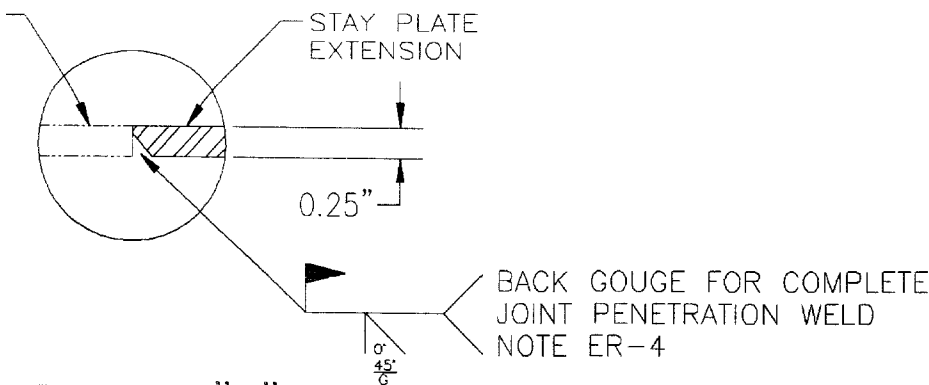
BILL OF MATERIAL					
REF.	Drawing #	QTY.	MAT'L	DESCRIPTION	S.L.
1	A-10031481	24		INBOARD BASKET SUPPORT BAR	SL
2	C-105534	24		"A" STAY PLATE EXTENSION ASSEMBLY ASS'Y #7	SL
3	C-105534	24		"B" STAY PLATE EXTENSION ASSEMBLY ASS'Y #8	SL
4	C-105534	24		"C" STAY PLATE EXTENSION ASSEMBLY ASS'Y #9	SL
5	C-105534	24		"D" STAY PLATE EXTENSION ASSEMBLY ASS'Y #10	SL
6	C-105534	24		"E" STAY PLATE EXTENSION ASSEMBLY ASS'Y #11	SL
7	C-105534	24		"F" STAY PLATE EXTENSION ASSEMBLY ASS'Y #12	SL
8	D-11-66473	24		BASKET SUPPORT AT SHELL	SL
9	B-3-78067	24		COVER ASSEMBLY	SL
10	P-10-30765	192	3222	0.63 X 1.25 AW WELD STUD	SL
11	P-10-25412	192	3205	0.63 HEX NUT	SL
12	P-10-25413	192	3214	0.63 WASHER	SL

NOTES TO ERECTOR:

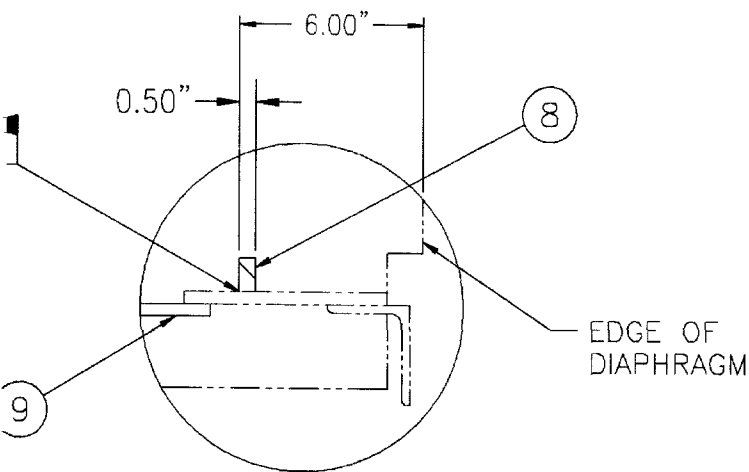
- ER-1 REMOVE ALL ELEMENT BASKETS FROM ALL LAYERS BEFORE PERFORMING ROTOR MODIFICATION WORK. ROTOR TO BE PROPERLY GROUNDED BEFORE WELDING TO PREVENT DAMAGE TO BEARINGS AND DRIVES.
- ER-2 ALL ROTOR MODIFICATION WORK SHOULD BE COMPLETED SO THAT EVERY OTHER COMPARTMENT IS WORKED ON ONE AT A TIME, AFTER COMPLETION OF EVERY OTHER COMPARTMENT THE BALANCE OF THE ROTOR CAN BE FIT TACK AND WELDED.
- ER-3 REMOVE THE EXISTING BASKET SUPPORT BARS, FILLER PIECES, GRATING, AND DISCARD. TRIM STAY PLATES TO THE CUT LINE DIMENSION SHOWN IN SECTION "A-A".
- ER-4 INSTALL THE STAY PLATE EXTENSIONS AS SHOWN. (EXTRA CARE SHOULD BE TAKEN TO MAKE SURE THAT THE STAY PLATE EXTENSIONS LINE UP WITH THE CORRESPONDING EXISTING STAY PLATES). MAINTAIN BASKET SUPPORT ELEVATION FLAT WITHIN 1/8".
- ER-5 INSTALL THE INBOARD AND OUTBOARD BASKET SUPPORT BARS REF. #1 & #8 AS SHOWN AND WELD INTO PLACE.
- ER-6 CENTER REF. #9 OVER SHELL OPENING AND SEAL WELD AS SHOWN ON THE COVER I.R. (REFER TO SECTION "C-C"). NEW FASTENERS ARE BEING SUPPLIED FOR REF. #9 TO SECURE COVER FOR WELDING IF DESIRED.
- ER-7 USE E-8100 WEATHERING WIRE FOR ALL WELDS.



DETAIL "X"
(D-4)




DETAIL "Y"
(C-4)



DETAIL "Z"
(B-4)

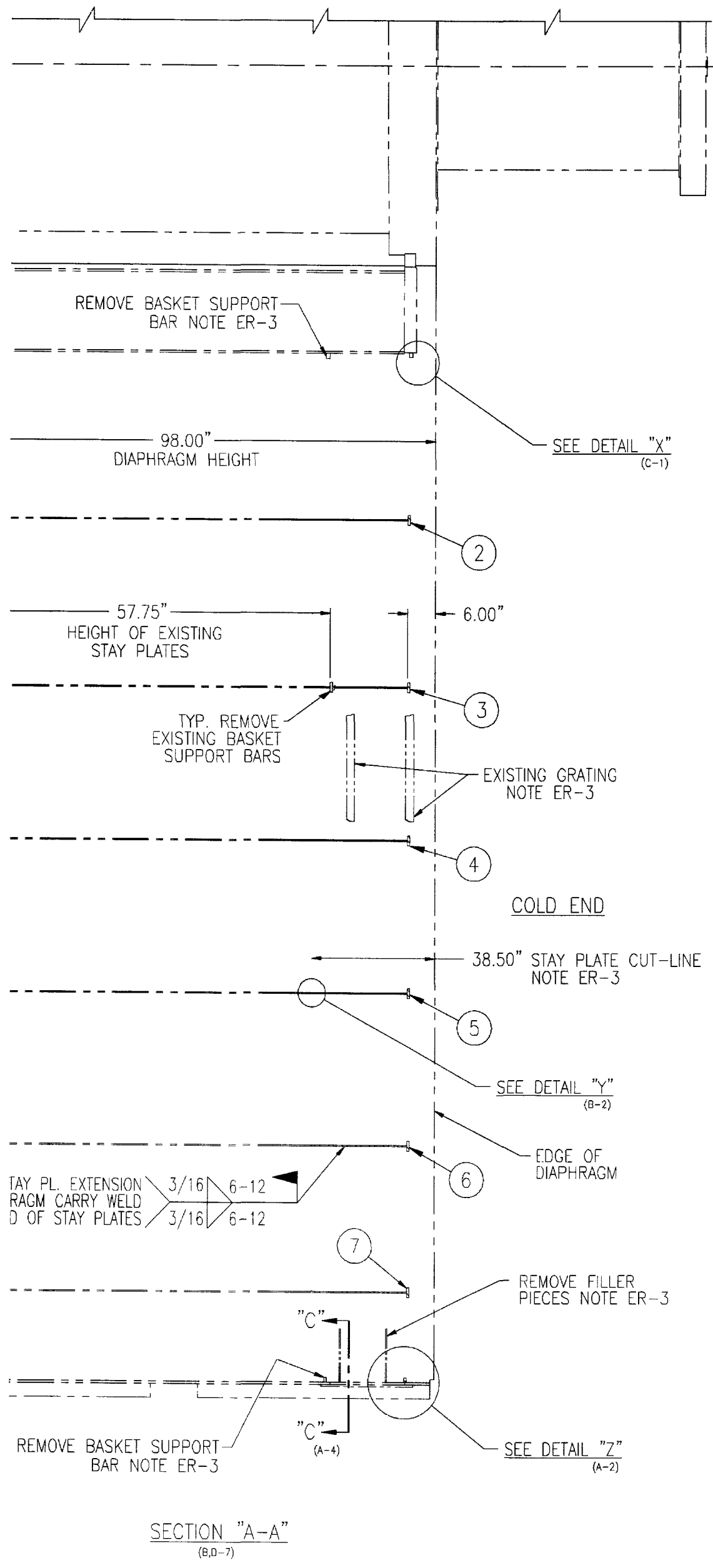
THIS DRAWING IS THE PROPERTY OF AIR PREHEATER COMPANY AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART TO FURNISH ANY INFORMATION FOR MAKING OF DRAWINGS OR FOR MANUFACTURE OR SALE OF EQUIPMENT REPRESENTED THEREON WITHOUT WRITTEN PERMISSION OF AIR PREHEATER COMPANY.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED	 THIRD ANGLE	ALSTOM ALSTOM Power Inc. Air Preheater Company Wellsville, New York				
SUBJECT AIR PREHEATER		CLEARFLOW ROTOR MODIFICATIONS				
API NO.						
SIZE 33.5 VI MOD						
DR CJC	CK DV	CODE	GROUP	SIZE	DWG NO.	REV
APPR. BY		ER	0100	D	10031472	
DATE 12/11/03		SCALE NTS		WT	SHEET	OF

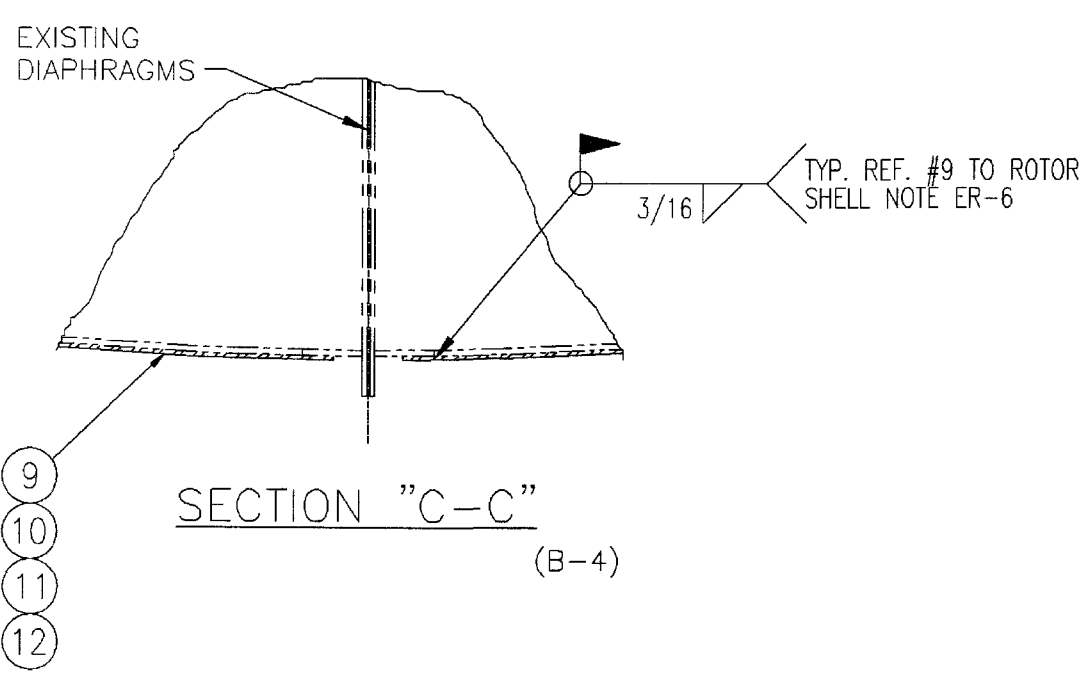
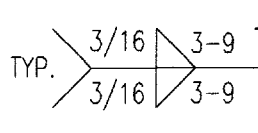


4

3



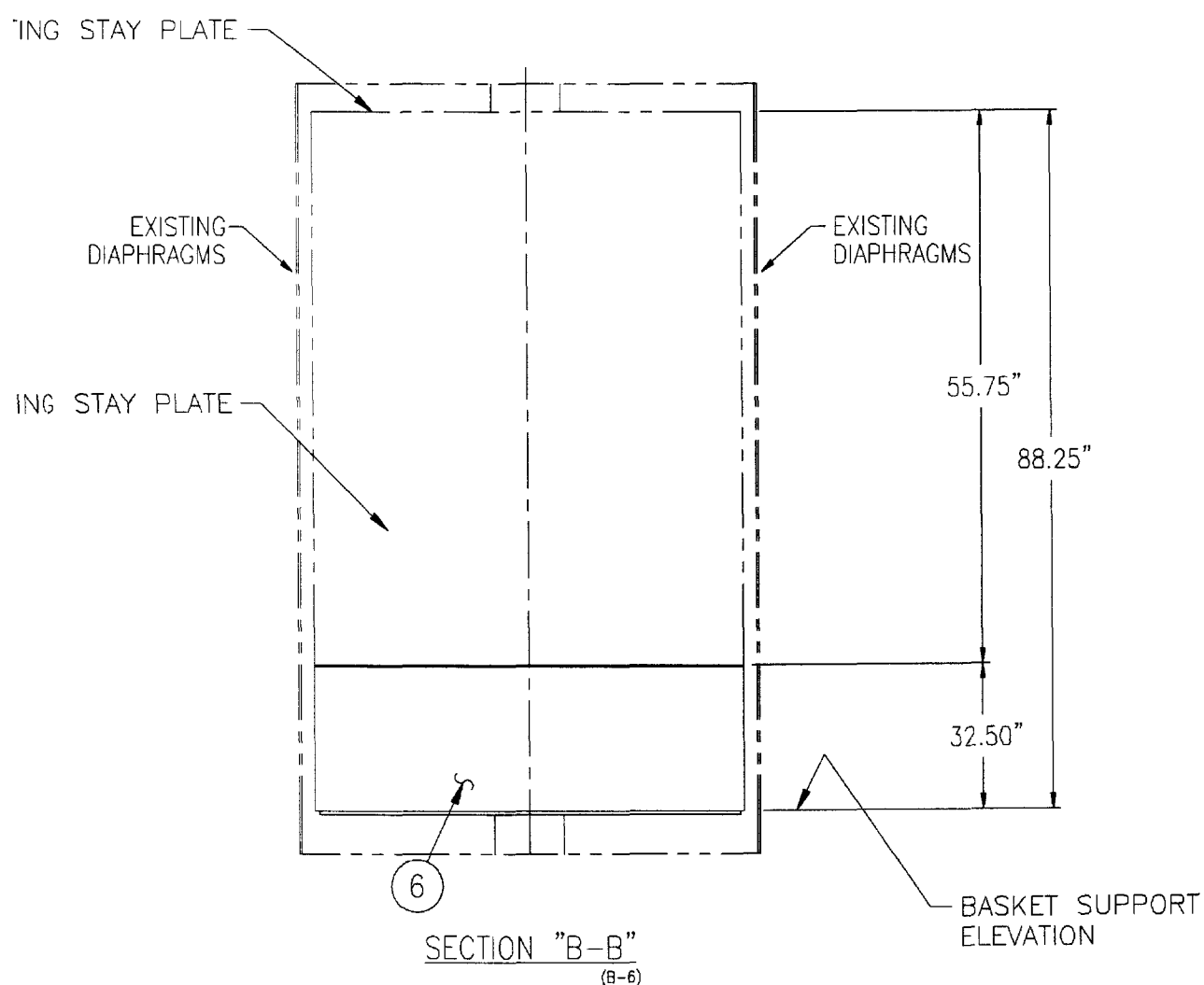
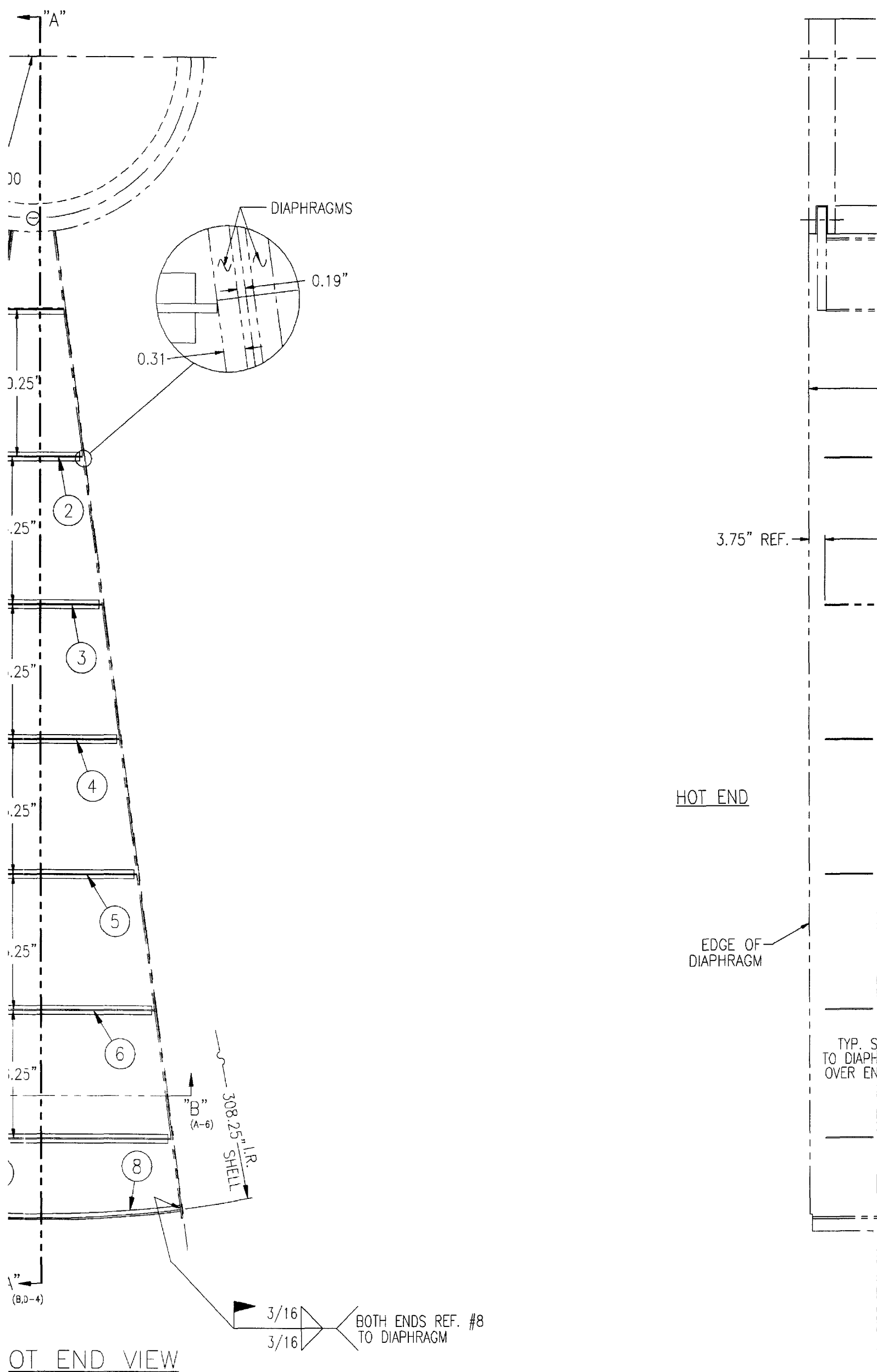
EXISTING STAY PLATE



SUPERSEDES SUPERSEDED BY

4

3



D

C

B

A

CHORD
DIM.
MEASURED
ON
I.R. OF SHELL



0.31"
DIAPHRAGM THICKNESS

CHORD DIM.
MEASURED ON
I.R. OF SHELL

MEASURED TO
END OF LUG

1

16 13"

23.81"
REF.

33.38"
REF.

0.25"

43.00"
REF.

52.63"
REF.

62.25"
REF.

71.81"
REF.

79.50"

"B"

31.25"

PARTIAL F

TOP OF EXIS.

EXIS.

H				
G				
F				
E				
D				
C				
B				
A				
MARK	DATE	DR.	CK.	DESCRIPTION
ALTERATIONS				

[4]

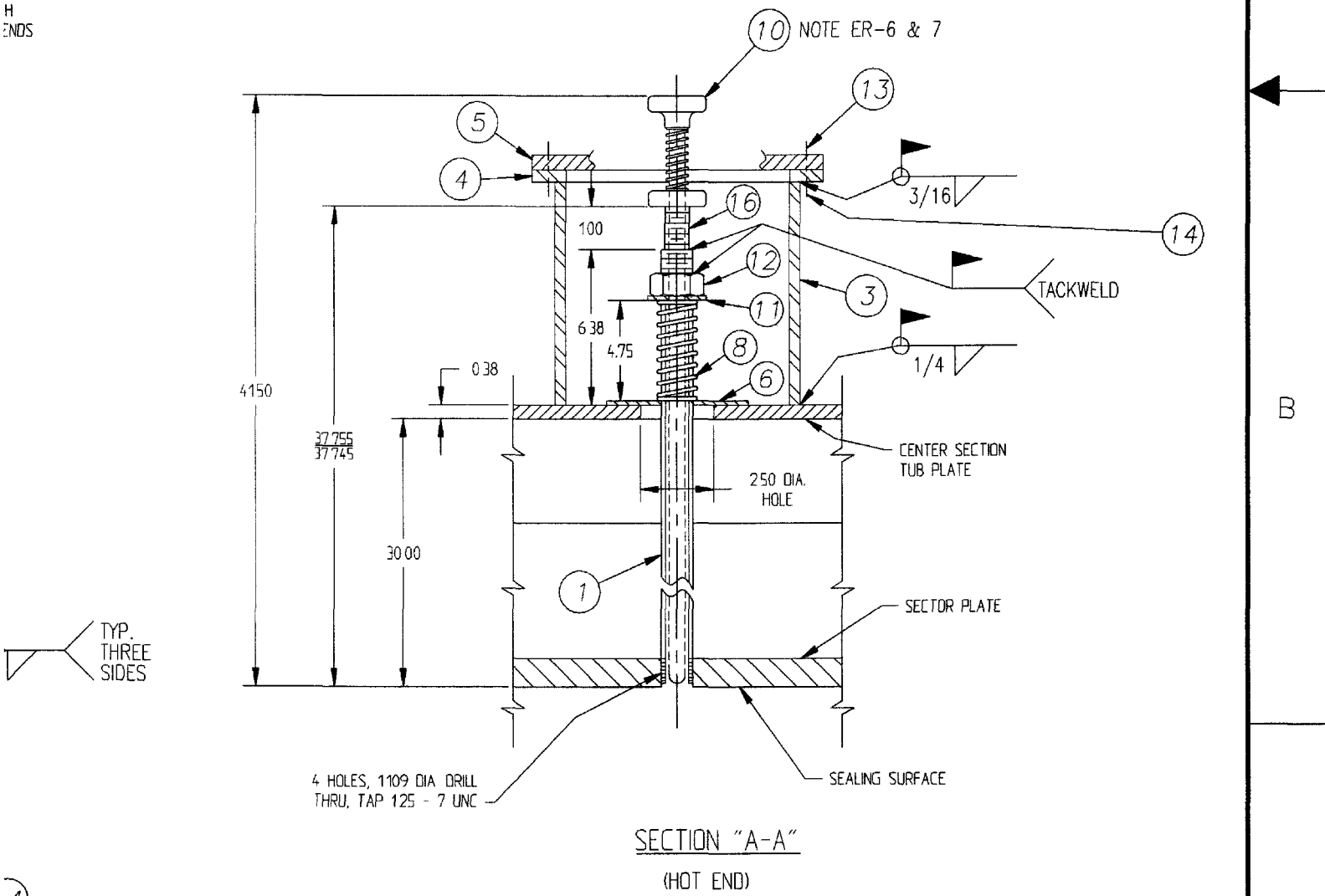
BILL OF MATERIAL

REF	DRAWING NO.	QTY.	MAT'L.	DESCRIPTION	S.L.
1	D-85512	4		H.E. SEAL GAUGE TUBE ASS'Y (ASS'Y #11)	SL
2	D-49622	1		H.E. GAUGE ROD SETTING BAR (ASS'Y #5)	SL
3	6500160040152	8	6501	6 SCH. #40 PIPE X 9.50 LG.	SL
4	C-2-85510	8	4006	0.38 X 7.25 X 7.25	SL
5	C-3-85510	8	4006	0.25 X 7.25 X 7.25	SL
6	P-1-30534	8	3215	GAUGE WASHER	SL
7	C-7-85510	4	4220	#12 GA. X 3.00 X 5.00	SL
8	P-2895	8	9904	BLISS JIG SPRING #DS-240 6.00 LG.	SL
9	D-85511	8		BUSHING CAP	SL
10	D-49623	1		H.E. GAUGE ROD ASS'Y (ASS'Y #5)	SL
11	P-20-25413	8	3214	1.25 WASHER	SL
12	P-20-25412	8	3205	1.25 FIN. HEX. NUT	SL
13	P-10-3079	32	3201	0.63 X 1.25 HEX. HD. CAPSCREW	SL
14	P-10-25412	32	3205	0.63 FIN. HEX. NUT	SL
15	D-85512	4		C.E. SEAL GAUGE TUBE ASS'Y (ASS'Y #3)	SL
16	E-26907	8		SEAL GAUGE BUSHING	SL
17	D-45369	1		C.E. GAUGE ROD SETTING BAR (ASS'Y #30)	SL
18	D-49623	1		C.E. GAUGE ROD ASS'Y (ASS'Y #29)	SL

NOTES TO ERECTOR

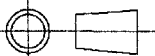
- ER-1 DRILL FOUR HOLES THRU THE HOT & COLD CENTER SECTIONS AND THE COLD END SECTOR PLATE WING PLATE AS SHOWN
- ER-2 DRILL AND TAP HOLES INTO SECTOR PLATES AS SHOWN IN SECTION "A-A"
- ER-3 CENTER REF #3 ON #4 & WELD AS SHOWN, THEN CENTER THE ASSEMBLY OF REF #3 & #4 OVER HOLE IN CENTER SECTION AND WELD TO TUB PLATE AS SHOWN IN SECTION "A-A".
- ER-4 ASSEMBLY REF #1, #7, #6, #8, #11, #12, #16 AS SHOWN IN SECTIONS "A-A", MAKING SURE REF. #1 IS WITHIN 0.13" OF THE SEALING SURFACE.
- ER-5 AFTER FINAL SETTING OF SECTOR PLATE TIGHTEN REF #12 AND TACKWELD.
- ER-6 INSERT REF. #10 & #18 INTO REF #16, ADJUST 1/4 TURN AT EACH REVOLUTION OF ROTOR UNTIL ROUNDED END JUST TOUCHES THE RADIAL SEALS.
- ER-7 REMOVE REF #10 & #18 USE REF #9 TO CAP THE TUBE AND INSTALL THE COVER REF #5 USING REF #13 & #14
- ER-8 CHECK SEAL CLEARANCE USING REF #2 & #17 RESPECTIVELY TO DETERMINE THE ACTUAL SEAL SETTINGS

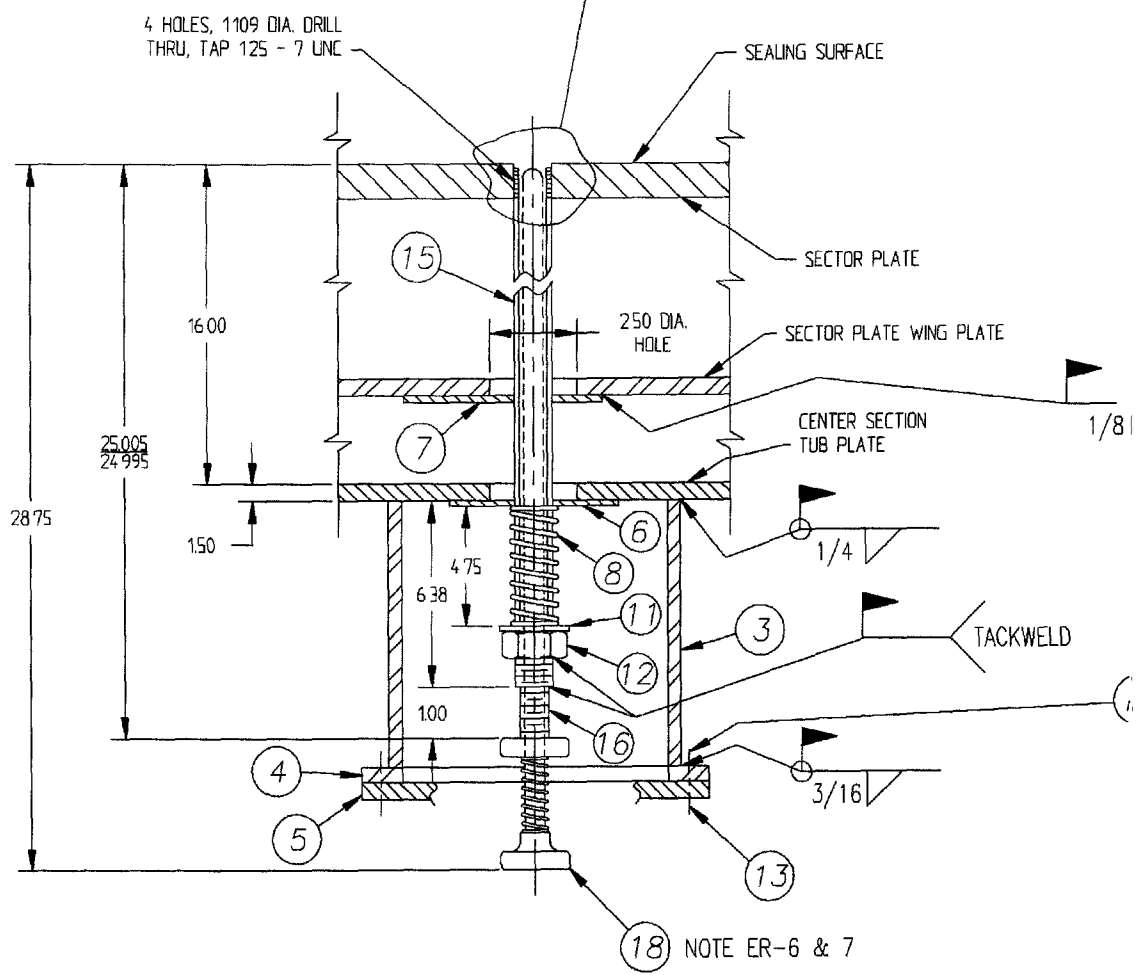
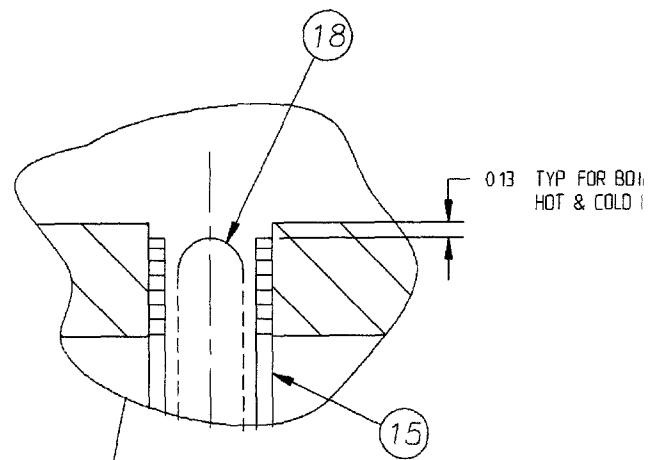
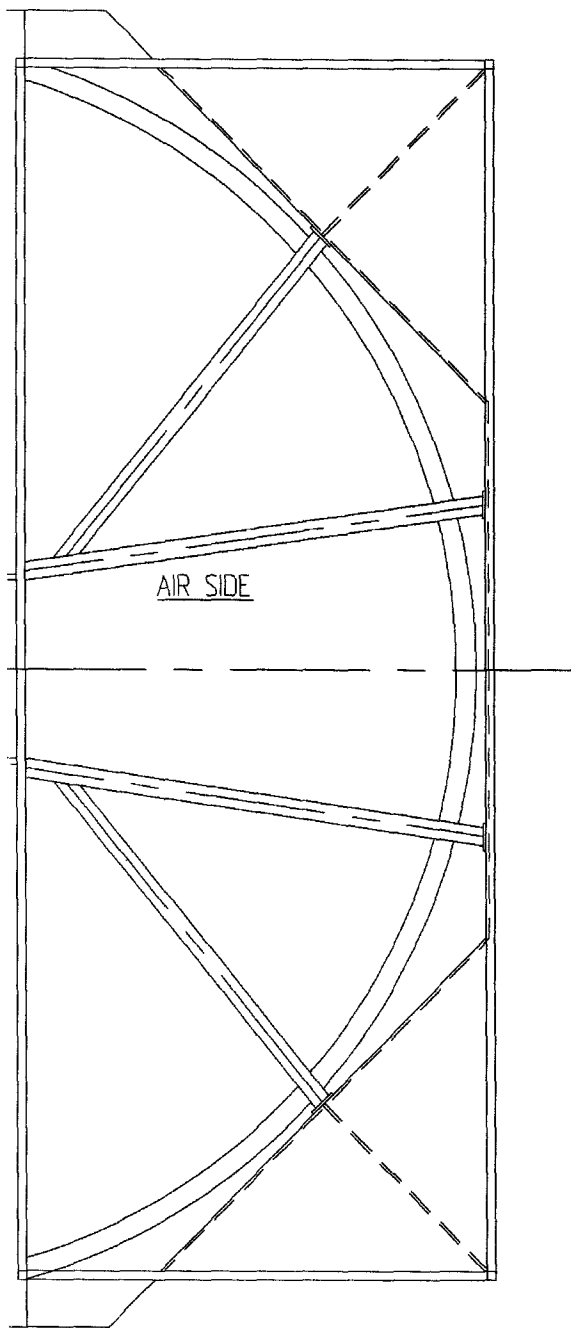
H
ENDS



4

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SUPERSEDED BY	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED				ALSTOM Power Inc. Air Preheater Company Wellsville, New York					
	THIRD ANGLE									
SUPERSEDES	SUBJECT AIR PREHEATER			HOT & COLD SEAL CLEARANCE GAUGE ASS'Y						
	API NO									
	SIZE 33.5 VI MOD									
	DR CJC		CK WDS		CODE	GROUP	SIZE	DWG NO.		REV
	APPR. BY				ER	0400	C	10031477		
	DATE 12/12/03			SCALE NTS		WT		SHEET OF		



SECTION "A-A"
(COLD END)

[4100/03062597]

D

PREHEATER
CENTERLINE

GAS SIDE

27100

24.94

196.25

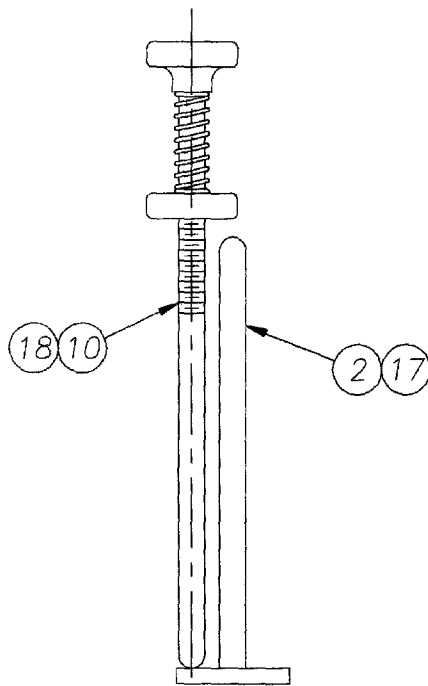
18.19

C

CENTERLINE OF PREHEATER
AND HOT END CENTER SECTION4 HOLES PER CENTER
SECTION 2.50 DIA

TOP PLAN VIEW

B

VIEW SHOWING USE OF
GAUGE ROD SETTING BAR ASS'Y

A

H				
G				
F				
E				
D				
C				
B				
A				
MARK	DATE	DR.	CK	DESCRIPTION
ALTERATIONS				

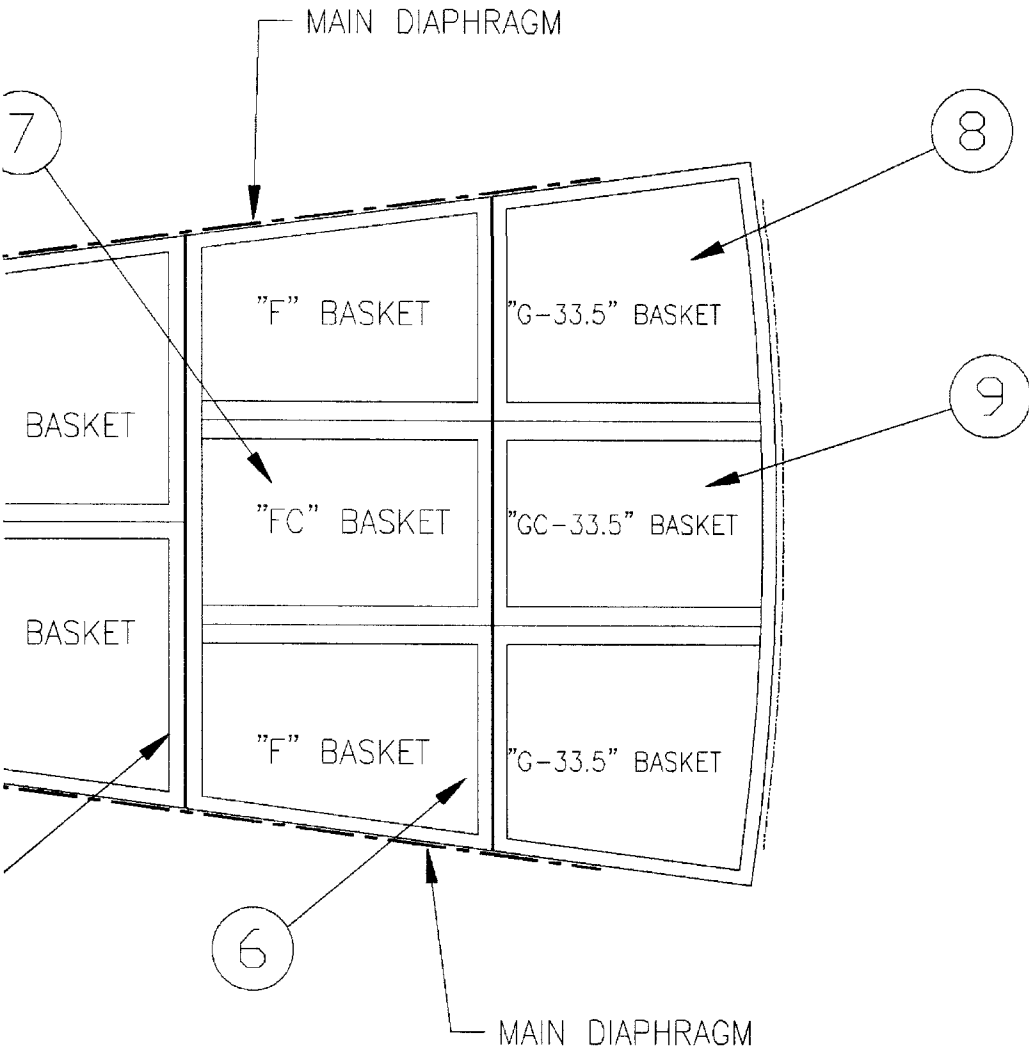
BILL OF MATERIAL				
REF. NO.	REQ'D.	MAT'L.	DESCRIPTION	SL
1	24		"A" BASKET SEALING BAR ASSEMBLY	SL
2	24		"B" BASKET SEALING BAR ASSEMBLY	SL
3	48		"C" BASKET SEALING BAR ASSEMBLY	SL
4	48		"D" BASKET SEALING BAR ASSEMBLY	SL
5	48		"E" BASKET SEALING BAR ASSEMBLY	SL
6	48		"F" BASKET SEALING BAR ASSEMBLY	SL
7	24		"FC" BASKET SEALING BAR ASSEMBLY	SL
8	48		"G-33.5"-OUT BSK'T SEALING BAR ASS'Y	SL
9	24		"GC-33.5"-OUT BSK'T SEALING BAR ASS'Y	SL

D

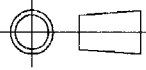

C

B

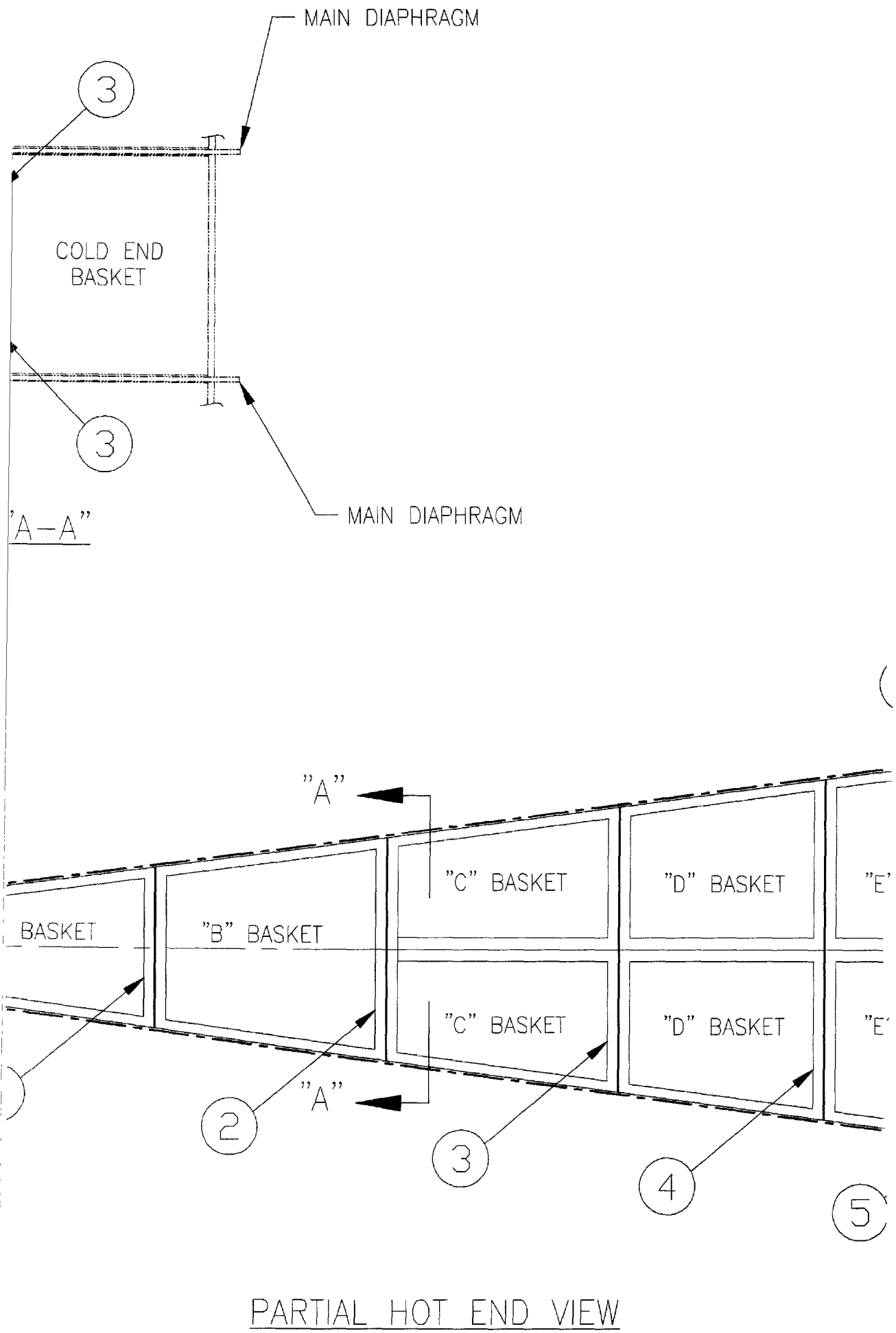
A



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SUPERSEDED BY	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED						ABB AIR PREHEATER, INC.		
			THIRD ANGLE				WELLSVILLE, NEW YORK		
	SUBJECT			BASKET SEALING BAR ARRANGEMENT					
	AIR PREHEATER								
	API NO.								
SUPERSEDES	SIZE 33.5 V-VI								
	DR CU		CK CU		CODE	GROUP	SIZE	DWG NO.	REV
	APPR BY			ER	0204	C	80030675		
	DATE 12/11/03			SCALE NTS		WT		SHEET	OF

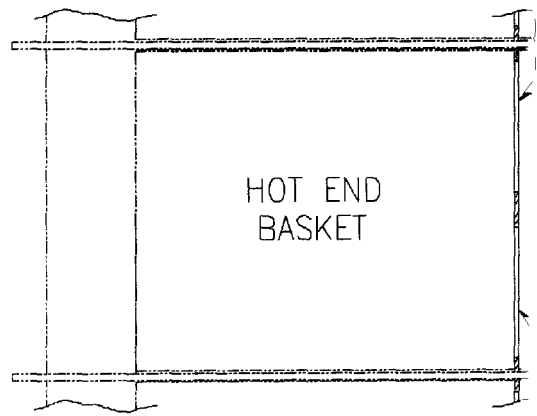
DRAINING COLD END BASKETS, INSTALL REF. #1 THRU #9
HOT AND COLD END BASKETS. DO NOT WELD IN PLACE.
ANG BARS AS REQUIRED TO FIT COMPARTMENTS.
HOT END BASKETS.



L\CONT\LJUNG\4100\03062597\0240

NOTES TO ERECTOR:
ER-1) AFTER INS
BETWEEN
ER-2) TRIM SEAL
ER-3) INSTALL H

D

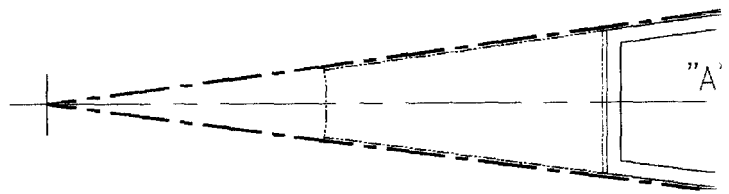


C

SECTION



B



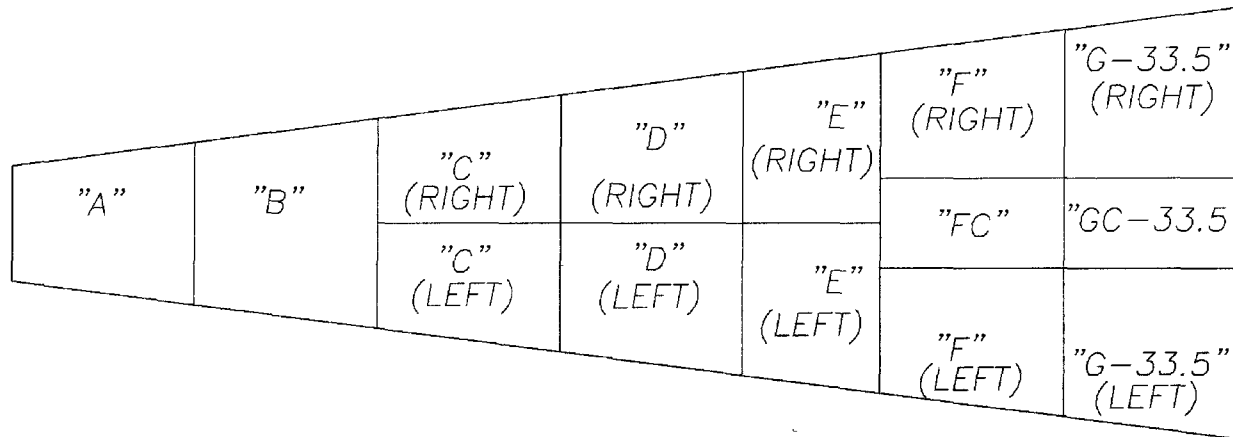
A

H				
G				
F				
E				
D				
C				
B				
A				
MARK	DATE	DR.	CK.	COMMENTS
ALTERATIONS				

L\STD\BASKET\ARRGT\33.5

NOTE TO ERECTOR:

ER-1 TO BE USED WITH BASKET SEALS ONLY



ORIENTATION
OF VIEW
←

TOP PLAN VIEW

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AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE
OR IN PART TO FURNISH ANY INFORMATION FOR MAKING OF DRAWINGS
OR FOR MANUFACTURE OR SALE OF EQUIPMENT REPRESENTED THEREON
WITHOUT WRITTEN PERMISSION OF AIR PREHEATER COMPANY

<table border="1"> <tr><td>H</td><td></td><td></td><td></td></tr> <tr><td>G</td><td></td><td></td><td></td></tr> <tr><td>F</td><td></td><td></td><td></td></tr> <tr><td>E</td><td></td><td></td><td></td></tr> <tr><td>D</td><td></td><td></td><td></td></tr> <tr><td>C</td><td></td><td></td><td></td></tr> <tr><td>B</td><td></td><td></td><td></td></tr> <tr><td>A</td><td></td><td></td><td></td></tr> <tr> <td>MARK</td> <td>DATE</td> <td>DR.</td> <td>CK.</td> </tr> <tr> <td colspan="4">ALTERATIONS</td> </tr> </table>				H				G				F				E				D				C				B				A				MARK	DATE	DR.	CK.	ALTERATIONS				<p>LAYER</p> <table border="1"> <tr><td>X</td><td>HE</td></tr> <tr><td></td><td>HI</td></tr> <tr><td>X</td><td>CE</td></tr> <tr><td></td><td>CI</td></tr> </table>		X	HE		HI	X	CE		CI	<p>SUPERSEDED BY</p> <table border="1"> <tr> <td colspan="2">ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED</td> <td colspan="2"> <p>THIRD ANGLE</p> </td> </tr> <tr> <td colspan="4">SUBJECT AIR PREHEATER</td> </tr> <tr> <td colspan="4">API NO.</td> </tr> <tr> <td colspan="4">SIZE 33.5 V/VI</td> </tr> <tr> <td colspan="2">DR CU</td> <td colspan="2">CK CU</td> </tr> <tr> <td colspan="4">APPR. BY</td> </tr> <tr> <td colspan="4">DATE 12/11/03</td> </tr> </table>		ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED		<p>THIRD ANGLE</p>		SUBJECT AIR PREHEATER				API NO.				SIZE 33.5 V/VI				DR CU		CK CU		APPR. BY				DATE 12/11/03				<p>ALSTOM ALSTOM Power Inc. Air Preheater Company Wellsville, New York</p>			
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DETAILS THE USE OF NOTES #1 THROUGH #11 BELOW:

1, 4, 5, 6, 7, 8, & 11 ARE GENERAL NOTES FOR ALL JOBS.

IS REQUIRED ONLY IF SPECIFIED ON THE ERECTION DRAWING.

3, 9, & 10 ARE SPECIFICALLY FOR FULL PENETRATION WELDS.

DS WILL BE 100% VISUALLY EXAMINED AND DOCUMENTED TO ENSURE THE PRECEDING REQUIREMENTS.

DS WILL BE MAGNETIC PARTICLE OR LIQUID PENETRANT EXAMINED IN + APPENDIX 6 OR APPENDIX 8 RESPECTIVELY ASME CODE, SECTION VIII, T EDITION TO ENSURE THE SURFACES ARE FREE FROM DEFECTS AND HECKED TO ENSURE THEY MEET THE MINIMUM SIZE REQUIREMENT E DRAWING.

RATION WELDS WILL BE ULTRASONIC EXAMINED IN ACCORDANCE WITH ME CODE, SECTION VIII, DIVISION 1 LATEST EDITION.

T, MAGNETIC PARTICLE AND ULTRASONIC EXAMINATIONS MUST NOT BE THE WELD HAS COOLED TO AMBIENT TEMPERATURE.

r, Inc. AND/OR AUTHORIZED REPRESENTATIVES SHALL HAVE FULL RIGHTS INSPECT AND/OR TEST WELDS AND DETERMINE COMPLIANCE WITH THESE

E TESTING SHALL BE PROGRESSIVE TO ENSURE THAT PROCESS OR TS ARE NOT PERPETUATED.

OF EACH WELD SHALL BE VISUALLY INSPECTED. PREHEAT SHALL Y MAINTAINED THROUGHOUT THE WELDING CYCLE.

HIS WELDING PROCEDURE IS TO DEPOSIT HIGH QUALITY, LOW HYDROGEN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.1 OR

THE WELDING IS TO BE CARRIED OUT UNDER THE DIRECTION OF VISION AND Q.C. PERSONNEL WHO FULLY UNDERSTAND THE INTENT OF WELDING CODES AND WELDING PROCEDURES.

AMINATION OF FULL PENETRATION WELDS IS AN ACCEPTABLE ALTERNATIVE EXAMINATION AND IS TO BE DONE IN ACCORDANCE WITH ASME CODE, SION 1 LATEST EDITION ACCEPTANCE CRITERIA PER PARAGRAPH UW.51.

INATION SHALL BE PERFORMED AT BOTH HOT AND COLD ENDS WHERE S JOINED TO THE STUB DIAPHRAGM. A SPOT ULTRASONIC EXAMINATION BE DONE TO THE DIAPHRAGM TO STUB DIAPHRAGM JOINT BETWEEN THE IONS WHEN FULL PENETRATION WELDS ARE SPECIFIED. IF REJECTABLE E FOUND, THE ENTIRE LENGTH OF THE WELD WILL BE EXAMINED.

S WILL BE REPAIRED AND RE-EXAMINED BY ULTRASONIC METHODS OR OVE.

TO BE A MINIMUM OF 1/8" UNLESS OTHERWISE SPECIFIED. IN THE ELDS REQUIRED ON A DYNAMIC COMPONENT THE MINIMUM SIZE IS 3/16".

OUNDING NOTE

ROTOR TO BE GROUNDED ANY TIME WELDING

OR AIR ARCING IS TAKING PLACE TO PREVENT

AGE TO BEARINGS AND DRIVES.

ERIAL NOTE

SOME AIR PREHEATER PARTS ARE PRODUCED FROM

ATHERING STEEL (LACR) FOR CORROSION RESISTANCE.

SPECIFIC LOCATIONS OF WEATHERING STEEL ON AN

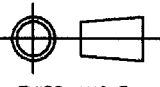

ER PLEASE SEE THE SPECIFIC ASSEMBLY DRAWING OR

CTACT YOUR REGIONAL AIR PREHEATER SALES OFFICE,

VICE REPRESENTATIVE OR YOUR INSIDE SALES

RESENTATIVE.

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SUPERSEDED BY	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED		 ABB AIR PREHEATER, INC. WELLSVILLE, NEW YORK					
	SUBJECT AIR PREHEATER		GENERAL WELDING SPECIFICATIONS					
	API NO.							
	SIZE							
	SUPERSEDES	DR RF	CK	—	CODE	GROUP	SIZE	DWG NO.
APPR. BY			ER	0100	C	65357	P	
DATE 1-30-75			SCALE NTS		WT	SHEET	OF	

THE FOLLOWING D
NOTES
NOTE 2
NOTES

SECTION IX LATEST REVISION PER CONTRACT
SECTION II PART C SFA-5.1 AND SFA-5.5.)
RING CARBON STEEL (LACR) AND LIKE MATERIALS.

ENTS OF AWS A5.1/ASME SFA-5.1 GRADE E7018
GRADE E8018-W2 LOW HYDROGEN ELECTRODES
GEN WELDING PROCESSES MAY BE USED WITH

LY SEALED CONTAINERS. IMMEDIATELY AFTER OPENING
BE STORED IN OVENS HELD AT A TEMPERATURE
SHALL BE REBAKED NO MORE THAN ONCE.

OR AFTER ELECTRODES ARE REMOVED FROM BAKING OR
SPHERE SHALL NOT EXCEED FOUR (4) HOURS FOR
ELECTRODES. ELECTRODES EXPOSED TO THE
MAY BE RETURNED TO A HOLDING OVEN MAINTAINED
RIOD OF FOUR (4) HOURS AT 250 DEGREES F. MINIMUM

DDS GREATER THAN THOSE PERMITTED SHALL BE
ENT OF THE MANUFACTURER'S INSTRUCTIONS OR THE

GS CONFORMING TO AWS A5.1/ASME SFA-5.1 SHALL BE
00 DEGREES F. AND 800 DEGREES F.
GS CONFORMING TO AWS A5.5/ASME SFA-5.5 SHALL BE
0 DEGREES F. AND 800 DEGREES F.

AT A TEMPERATURE NOT EXCEEDING ONE HALF (1/2)
NE HALF (1/2) HOUR PRIOR TO INCREASING THE OVEN
BAKING TIME SHALL START AFTER THE OVEN REACHES
REBAKED NO MORE THAN ONCE. ELECTRODES THAT

HORIZONTAL OR VERTICAL UP POSITION UNLESS

HEAT SPECIFICATIONS:
GE
FAHRENHEIT MINIMUM
FAHRENHEIT MINIMUM
FAHRENHEIT MINIMUM

FREE OF DIRT, OIL, GREASE AND EXCESSIVE RUST SCALE

FOR WELDING.

PS. ELECTRODE WEAVING SHALL BE KEPT TO A MINIMUM
LATEST REVISION. TACKWELDS MAY BE INCORPORATED
D TO BE FREE OF DEFECTS. IF TACKWELDS ARE FOUND
G. BASE METAL MUST BE PREHEATED FOR TACKWELDING

E OF CRACKS, PINHOLES, UNDERCUTS AND SHALL BE
METAL. COVER PASSES SHALL BE FREE OF COARSE
ERNS, HIGH CROWNS, DEEP RIDGES, UNDERCUTS, ETC.
IT REVISION.

BEFORE DEPOSITING THE NEXT SUCCESSIVE LAYER OF
D WIRE BRUSHED TO PERMIT THOROUGH VISUAL

VED BY CHIPPING OR GRINDING PRIOR TO DEPOSITING

ED IN ACCORDANCE WITH SECTION IX OF THE
1.1.

- INSPECTION AND TEST
- (P) 1. ALL FINISHED WEI
COMPLIANCE WITH
2. ALL FINISHED WE
ACCORDANCE WITI
DIVISION 1 LATES
DIMENSIONALLY C
SPECIFIED ON TH
3. ALL FULL PENETI
APPENDIX 12, AS
4. LIQUID PENETRAN
PERFORMED UNTIL
5. ABB Air Preheate
OF ACCESS TO IM
REQUIREMENTS.
6. NON-DESTRUCTIV
OPERATOR DEFEC
7. THE ROOT PASS
BE CONTINUOUSL
8. THE INTENT OF
WELD METAL IN
ASME SECTION IX
QUALIFIED SUPER
THE REFERENCED
9. RADIOGRAPHIC E
TO ULTRASONIC I
SECTION VIII, DIVI
10. ULTRASONIC EXAM
THE DIAPHRAGM
12" LONG SHALL
INITIAL END SECI
APPLICATIONS AR
REJECTABLE ARE
PER NOTE #9 AI
11. SEAL WELDS AR
CASE OF SEAL V

GR

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[STD]

GENERAL WELDING SPECIFICATIONS:

ALL WELDING SHALL BE PER AWS D1.1 AND/OR ASME REQUIREMENTS. (REFERENCE AWS A5.1, AWS A5.5, ASME THIS SPECIFICATION IS INTENDED FOR A36, A-588, WEATHE

FILLER METAL-

THE FILLER METAL SHALL CONFORM TO THE REQUIREM LOW HYDROGEN ELECTRODES OR AWS A5.5/ASME SFA-5.5 BASED ON CONTRACT REQUIREMENTS. OTHER LOW HYDROG WRITTEN APPROVAL FROM ABB Air Preheater, Inc.

FILLER METAL STORAGE-

ALL ELECTRODES SHALL BE PURCHASED IN HERMETICAL THE HERMETICALLY SEALED CONTAINER, ELECTRODES SHALL OF AT LEAST 250 DEGREES FAHRENHEIT (F.). ELECTRODES ELECTRODES THAT HAVE BEEN WET SHALL NOT BE USED.

APPROVED ATMOSPHERIC TIME PERIODS-

AFTER HERMETICALLY SEALED CONTAINERS ARE OPENED STORAGE OVENS, THE ELECTRODE EXPOSURE TO THE ATMO E7018 ELECTRODES OR TWO (2) HOURS FOR E8018-W2 E ATMOSPHERE FOR PERIODS LESS THAN THOSE PERMITTED AT 250 DEGREES F. MINIMUM; AFTER A MINIMUM HOLD PE THE ELECTRODES MAY BE REISSUED.

BAKING ELECTRODES-

ELECTRODES EXPOSED TO THE ATMOSPHERE FOR PERI DISPOSED OF OR BAKED ACCORDING TO THE MORE STRING FOLLOWING:

1. ALL ELECTRODES HAVING LOW HYDROGEN COVERIN BAKED FOR AT LEAST TWO (2) HOURS BETWEEN 5.
2. ALL ELECTRODES HAVING LOW HYDROGEN COVERIN BAKED FOR AT LEAST ONE (1) HOUR BETWEEN 70

ALL ELECTRODES SHALL BE PLACED IN A SUITABLE OVEN . OF THE FINAL BAKING TEMPERATURE FOR A MINIMUM OF C TEMPERATURE TO THE FINAL BAKING TEMPERATURE. FINAL THE FINAL BAKING TEMPERATURE. ELECTRODES SHALL BE HAVE BEEN WET SHALL BE DISCARDED.

POSITION-

ALL WELDING SHALL BE PERFORMED IN THE FLAT, HOI INSTRUCTIONS ON DRAWINGS STATE OTHERWISE.

PREHEAT-

THE FOLLOWING SCHEDULE SHOWS RECOMMENDED PRE BASE METAL THICKNESS PREHEAT RAN 0" TO 1.50" INCLUSIVE 50 DEGREES 1.50" TO 2.50" INCLUSIVE 150 DEGREES OVER 2.50" 225 DEGREES THICKEST SECTION OF BASE METAL TO BE JOINEI

PREPARATION OF BASE METAL-

THE SURFACES TO BE JOINED BY WELDING SHALL BE OR OTHER FOREIGN MATTER.

ELECTRICAL CHARACTERISTICS-

DIRECT CURRENT REVERSE POLARITY SHALL BE USED

PROCEDURE-

ALL WELDS SHALL BE MADE AS SPECIFIED ON DRAWIN AND SHALL NOT EXCEED THE REQUIREMENTS OF AWS D1. IN THE WELD IF THEY ARE VISUALLY INSPECTED AND FOUR UNACCEPTABLE THEY ARE TO BE REMOVED BEFORE WELDI PER PREHEAT SCHEDULE.

WORKMANSHIP AND VISUAL QUALITY-

EACH LAYER OF WELDING SHALL BE SMOOTH AND FR; COMPLETELY FUSED TO ADJACENT WELD BEADS OR BASE RIPPLES, IRREGULAR SURFACES, NON-UNIFORM BEAD PAT AND CONFORM TO THE REQUIREMENTS OF AWS D1.1 LATI

CLEANING-

ALL SLAG SHALL BE REMOVED FROM EACH WELD BEA WELD METAL. FINISHED WELDS MUST BE DE-SLAGGED AI INSPECTION AND NON-DESTRUCTIVE EXAMINATION.

DEFECTS-

CRACKS, PINHOLES OR POOR TIE-INS SHALL BE REM SUBSEQUENT LAYERS OF WELD METAL.

QUALIFICATIONS-

WELDING PROCEDURES AND WELDERS MUST BE QUAL ASME BOILER AND PRESSURE VESSEL CODE OR AWS

U				
T				
S				
R				
Q				
P	10-9-00	JRC	AGM	MODIFIED INSPECTION NOTE #1
O	6/21/00	KMF	ACS	ADDED CLARIFICATION FOR SPECIFIC NOTES
N	6/10/99	GP	KMF	REDRAWN FROM "D" SIZE & MODIFIED NOTI
MARK	DATE	DR.	CK.	COMMENTS
ALTERATIONS				

BILL OF MATERIAL

DRAWING NO.	REQ D.	MAT L.	DESCR PT QTY	SL	LOFT
P-18-25404	TAB"E"	3201	5/8" x 2-1/4" HEX. HD. CAPSCREW	S-	
P-14-25404	144	3201	5/8" x 1-3/4" HEX. HD. CAPSCREW	S-	
P-10-25412	TAB"F"	3205	5/8" HEX NUT	S-	
P-10-25413	TAB"G"	3214	5/8" WASHER	S-	
D-69637	4		ROTOR POST SEAL (HE)	S-	
D-69009	4		ROTOR POST SEAL (CE)	S-	
C-TAB"L"-69636	24		INBOARD RADIAL SEAL LEAF (HE)	S-	
C-TAB"L"-67790	24		INBOARD RADIAL SEAL LEAF (CE)	S-	
C-67511	96		OUTBOARD RADIAL SEAL LEAF (HE)	S-	
C-1-67791	24		OUTBOARD RADIAL SEAL LEAF (CE)	S-	
C-75389	24		OUTBOARD SEAL TAB (HE)	S-	
C-2-67933	24		OUTBOARD SEAL TAB (CE)	S-	
D-TAB"L"-67795	24		INBOARD HOLDING STRIP (HE)	SL	
D-TAB"L"-78083	24		INBOARD HOLDING STRIP (CE)	SL	
D-2-67524	72		HOLDING STRIP (HE)	S-	
D-2-78084	72		HOLDING STRIP (CE)	S-	
H-17-78077	1	4011	3/8" x 4" x 60"	S-	
E-67521	192		SPACER BAR	S-	
C-67517	96		OUTBOARD DIAPH. SEAL (HE)	S-	
D-77033	96		OUTBOARD DIAPH. SEAL (CE)	S-	
E-67800	24		"T" BAR TAB	S-	
E-67540	24		"T" BAR TAB	S-	
B-66281	24		"T" BAR ASS'Y. ASS'Y*(TAB"L")	S-	
E-65558	48		CLIP	SL	
E-1-67526	24		END PLATE	SL	
C-52965	1/CONT		RADIAL SEAL STRAIGHT EDGE ASS'Y. ASS'Y*(TAB"M")	S-	
H-27-78077	1	5102	3/8" x 4" x 60"	S-	
H-28-78077	24	4211	+12 GA. x 1-1/16" x 1-5/8"	S-	
C-2-67791	24		OUTBOARD RADIAL SEAL LEAF (CE)	S-	
C-3-67791	24		OUTBOARD RADIAL SEAL LEAF (CE)	S-	
C-4-67791	24		OUTBOARD RADIAL SEAL LEAF (CE)	SL	
H-32-78077	1	5102	1/4" x 4" x 60"	SL	
H-33-78077	1	5102	1/2" x 4" x 60"	SL	
E-77345	24		"T" BAR TAB	SL	
E-77351	24		"T" BAR TAB	SL	
B-77352	24		"T" BAR ASS'Y. # TAB "L"	SL	
E-1-68708	24		END PLATE	SL	
H-38-78077	1	4011	1/4" x 4" x 60"	SL	
H-39-78077	1	4011	1/2" x 4" x 60"	SL	
P-18-31500	TAB"E"	3201	5/8" x 2-1/4" HEX. HD. BOLT	SL	
P-14-31500	144	3201	5/8" x 1-3/4" HEX. HD. CAPSCREW	SL	
P-10-1420	TAB"F"	3205	5/8" HEX NUT	SL	
P-6-1289	TAB"G"	3221	5/8" LOW ALLOY-FLAT WASHER	SL	
D-1-78084	24		HOLDING STRIP (CE)	SL	
D-1-67524	24		HOLDING STRIP (H.E.)	SL	

THE FOLLOWING TO BE USED FOR CLOCKWISE ROTATION

D-TAB"L"-67809	24		INBOARD DIAPH. SEAL H.E. (AS SHOWN)	SL	
D-TAB"L"-67811	24		INBOARD DIAPH. SEAL C.E. (AS SHOWN)	SL	

THE FOLLOWING TO BE USED FOR COUNTER-CLOCKWISE ROTATION

D-TAB"L"-67810	24		INBOARD DIAPH. SEAL H.E. (OPP. HAND)	SL	
D-TAB"L"-67812	24		INBOARD DIAPH. SEAL C.E. (OPP. HAND)	SL	

TO RECTOR:

ALL BOLTS, NUTS AND WASHERS TO BE INSTALLED EXACTLY AS SHOWN. FOLLOW INSTRUCTIONS ON "SEAL INSTALLATION AND SETTING DRAWING", GROUP #2108. ON HOT END DETERMINE HIGHEST DIAPHRAGM. MEASURE DISTANCE FROM CENTER OF OUTBOARD RADIAL SEAL BOLT HOLE TO MACHINED SURFACE OF SECTOR PLATE OR TO SEAL STRAIGHT EDGE. SUBTRACT 1" FROM THIS DIM. AND SET ALL HOT END "T" BARS SUPPORT ANGLES TO THIS DIM. FROM COLD END OF SAME DIAPHRAGM. MEASURE DISTANCE FROM CENTER OF OUTBOARD RADIAL SEAL BOLT HOLE TO MACHINED SURFACE OF SECTOR PLATE OR TO SEAL STRAIGHT EDGE. SUBTRACT 0" FROM THIS DIM. & SET SUPPORT ANGLES TO THIS DIM.. TOTAL VARIATION BETWEEN CONNECTING PL TO HOUSING SPLIT & THE "T" BAR SUPPORT ANGLE NOT TO EXCEED 1/4".

AFTER SUPPORT ANGLES ARE SET & WELDED IN PLACE, INSTALL ALL OF SPACERS (CUT TO FIT FROM REF. #17, 27, 32, 33, 38 & 39) BEFORE INSTALLING ROTOR "T" BARS.

INSTALL "T" BARS, REF. #23 & 36 WITH ENDS LOCATED ON CENTER LINES OF MODULES TO THE RADIUS SHOWN NOT EXCEEDING A TOTAL VARIATION OF 1/8". BOLT "T" BAR TO SUPPORT ANGLES. INSTALL CLIPS, REF. #24 & WELD AS SHOWN IN VIEW "L-L".

INSTALL ROTOR POST SEALS, REF. #5 & 6 TO CLEARANCE DIMENSION SHOWN & WELD AS SHOWN IN VIEW "A-A".

RECOMMENDED PROCEDURE FOR INSTALLING RADIAL SEALS:

7.1 STARTING AT OUTBOARD ENDS, LOCATE DIAPH. SPACER WITH SPACER HOLES CENTERED IN DIAPH.. TACKWELD TO ONE DIAPH. ONLY AS SHOWN. AT OUTBOARD AND INBOARD BOLT HOLES INSET BOLTS, REF. #1 & 40, WITH WASHER REF. #4 & 43, & DIAPH. SEAL, REF. #19 & #20, ON BOLT. INSTALL RADIAL SEAL LEAF SECTION FOLLOWED BY RADIAL SEAL TAB & HOLDING STRIP. BOLT ALL THE COMPONENTS TOGETHER WITH HEX NUTS, REF. #3 & 42, WITHOUT TIGHTENING. INSTALL REF. #1, #3, #4, #40, #42 & #43 IN THEIR PROPER LOCATION FOR THE REMAINING BOLT HOLES IN THE SECTION. DO NOT TIGHTEN. REPEAT THIS PROCEDURE FOR THE REMAINING SEAL LEAF SECTIONS. TRIM INBOARD SEALS TO FIT IF NECESSARY.

7.2 AFTER SEALS ARE INSTALLED AND SET TO STRAIGHT EDGE, TIGHTEN BOLTS.


7.3 LOCATE REF. #25 & #37 AND WELD TO REF. #17, 19, 20, 27, 32, 33, 38 & 39. LOCATE REF. #28 AND WELD AS SHOWN.

7.4 LOCATE REF. #21, 22, 34 & 35 AND WELD TO "T" BAR ONLY.

SEAL WELD END OF INBOARD RADIAL SEAL, REF. #7 & #8 & INBOARD DIAPHRAGM SEAL, REF. #52, 53, 62 & 63 (ACROSS TOP & DOWN SIDE) TO POST SEAL AS SHOWN.

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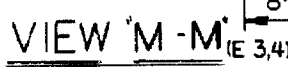
LAS. COLD END ~ DEF. SECT PL's.

SUPERSEDED BY	Subject	AIR PREHEATER	 AIR PREHEATER CE AIR PREHEATER WELLSVILLE, NEW YORK			
	Model/Arrangement	MOD				
	Size, Type Series	32-1/2 - 33-1/2 VI				
	Des.	Ch.				
SUPERSEDES	Dr. KAT	Ch. DV	RADIAL SEAL ASS'Y. (5/16" DIAPH.)			
	Tr.	Ch.				
	Material					
	Stk. No.					
DATE 3-16-83		SCALE NTS	80509 ER	DRAWING NUMBER GROUP SIZE NUMBER ISSUE 0103 H 78077 A		
			WT.	SHEET OF		

03062597

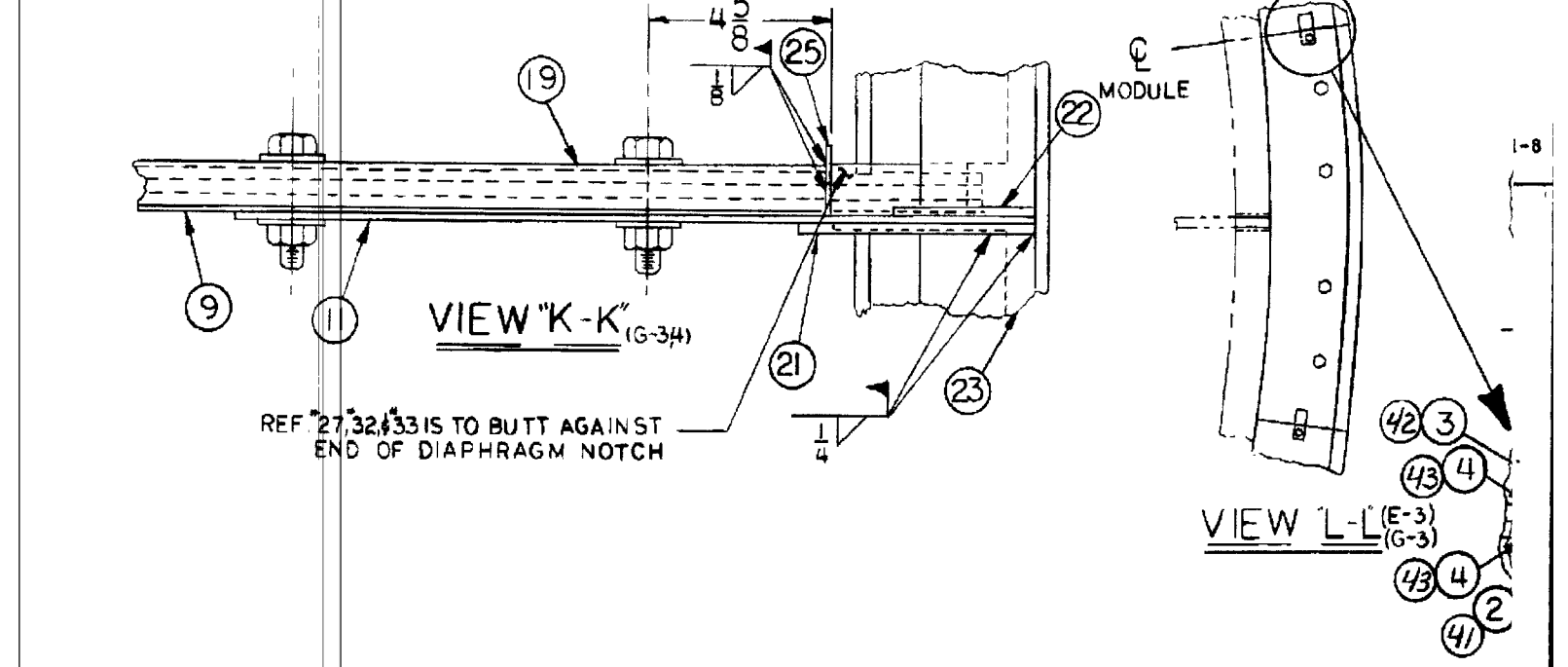
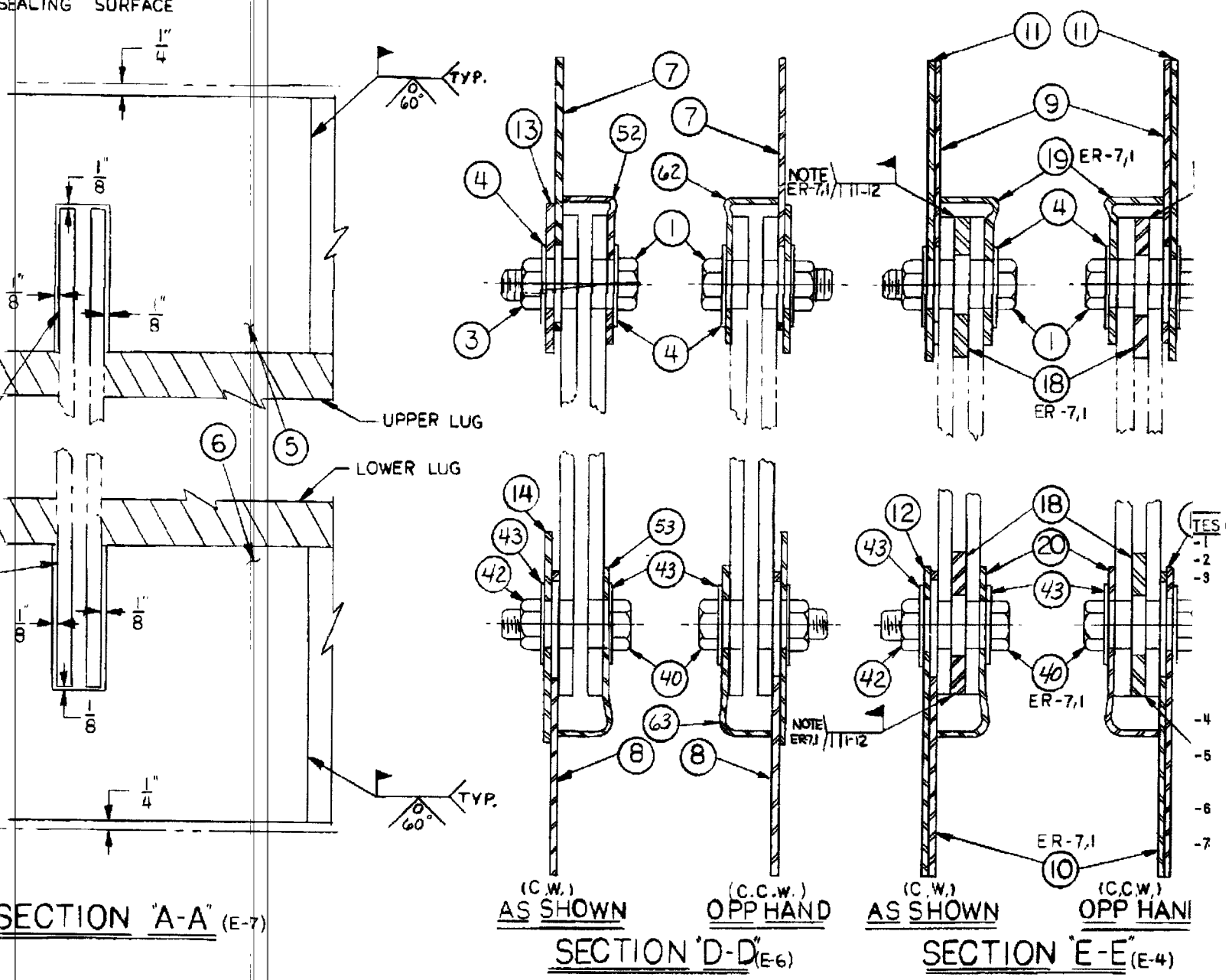
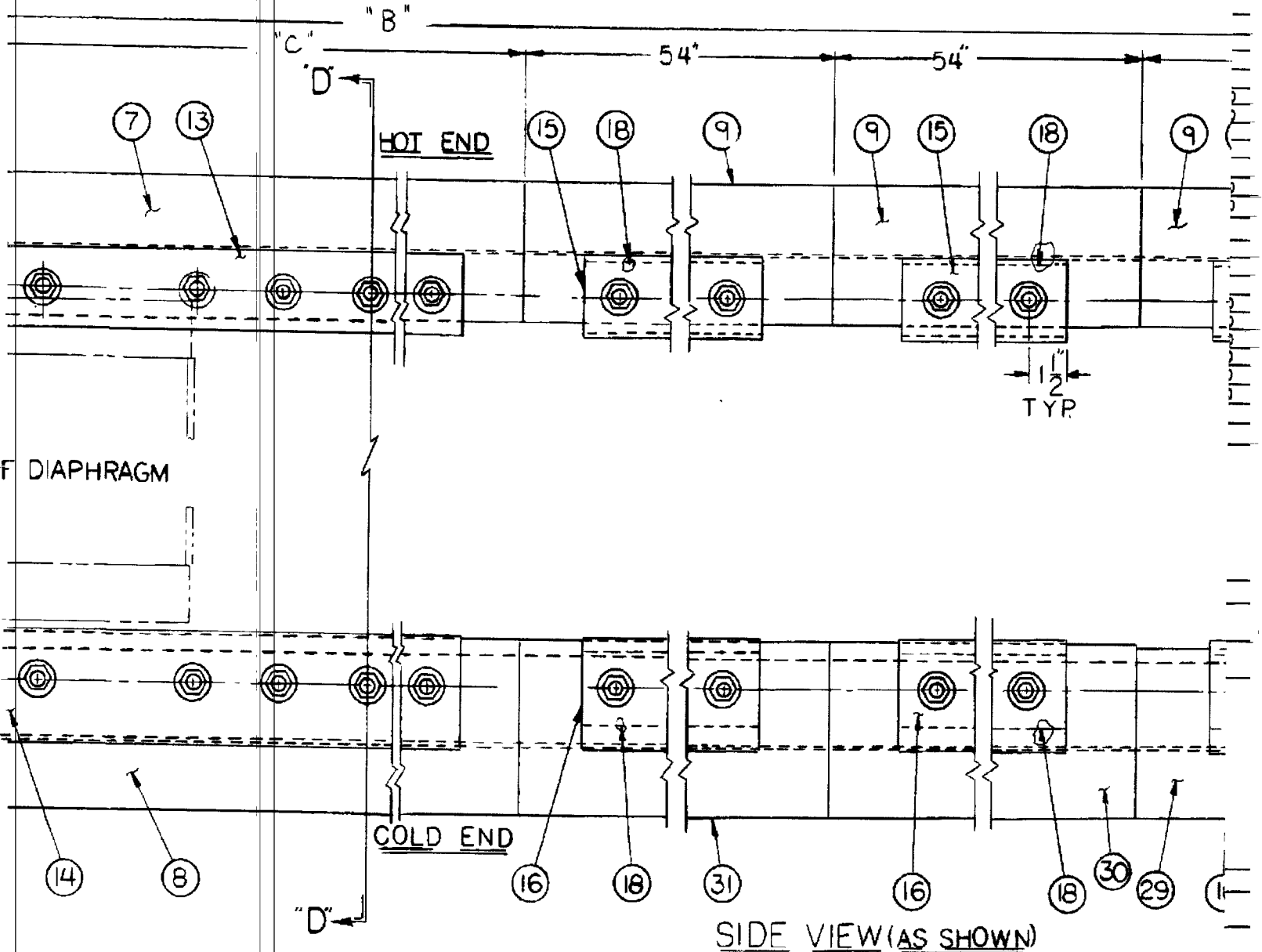
IP7_033838

ER-



IP7 033839

P.	TAB. "L"	TAB. "M"	ASS'Y. NO.	ASS'Y. REQ'D.
14	1	1	1	
15	2	2	2	
16	3	3	3	



39 ¹⁵/₁₆" RAD. REF.

1" ¹/₁₆" ¹/₄"

"A" C

GUIDE BEARING STATIONARY SPOOL NOTE ER-6 (5)

40" RAD. POST

EDGE (

39 ¹⁵/₁₆" RAD REF

SUPPORT TRUNNION STATIONARY SPOOL NOTE ER-6 (6)

"A" (C-7) "C" (F-7)

SEAL WELD TO DIAPH. LUG ONLY. TYP. AWS 4.10.02

SEALING SURFACE

POST SEAL

ER-8

ER-8

(C.W) AS SHOWN (C.C.W.) OPP. HAND

SECTION "C-C" (E-7)

MARK	DATE	ALT.	GRD.
J			
I			
H			
G			
F			
E			
D			
C			
B			
A	3-12-84	RMS	RAD

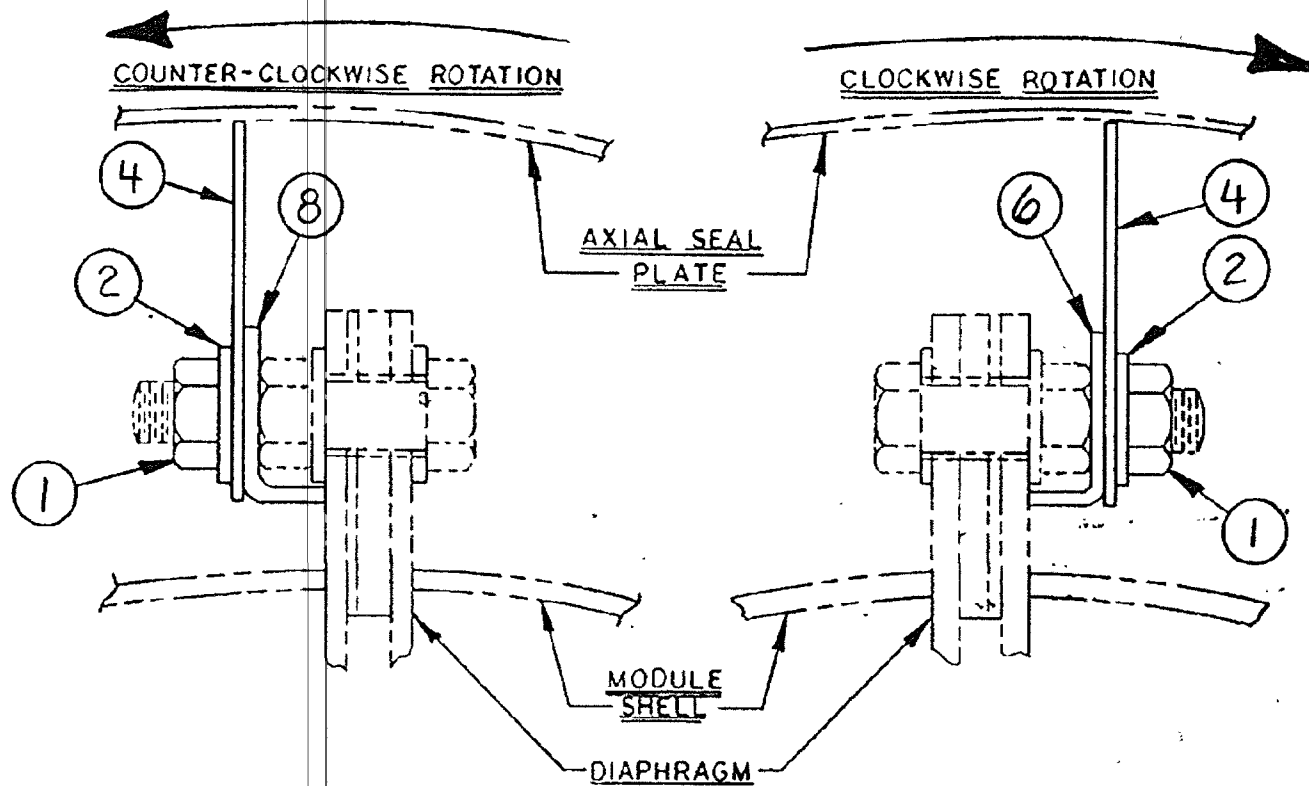
ALTERATIONS

IP7 033841

BILL OF MATERIAL						
REF. NO.	PART CODE NO.	DRAWING NO.	REQ'D.	MAT'L.	DESCRIPTION	LOFT
1	32050	P-12-25412	"C"	3205	3/4" FIN. HEX. NUT	SL
2	32140	P-12-25413	"C"	3214	3/4" WASHER	SL
3		D-E-78076	24		AXIAL SEAL LEAF (COLD END)	SL
4		D-F-78076	24		AXIAL SEAL LEAF (HOT END)	SL
THE FOLLOWING TO BE FOR CLOCKWISE ROTATION						
5		D-G-76118	24		FORMED HOLDING STRIP (COLD END)	SL
6		D-H-76117	24		FORMED HOLDING STRIP (HOT END)	SL
THE FOLLOWING TO BE FOR COUNTER-CLOCKWISE ROTATION						
7		D-G-76117	24		FORMED HOLDING STRIP (COLD END)	SL
8		D-H-76118	24		FORMED HOLDING STRIP (HOT END)	SL


NOTES TO ERECTOR:

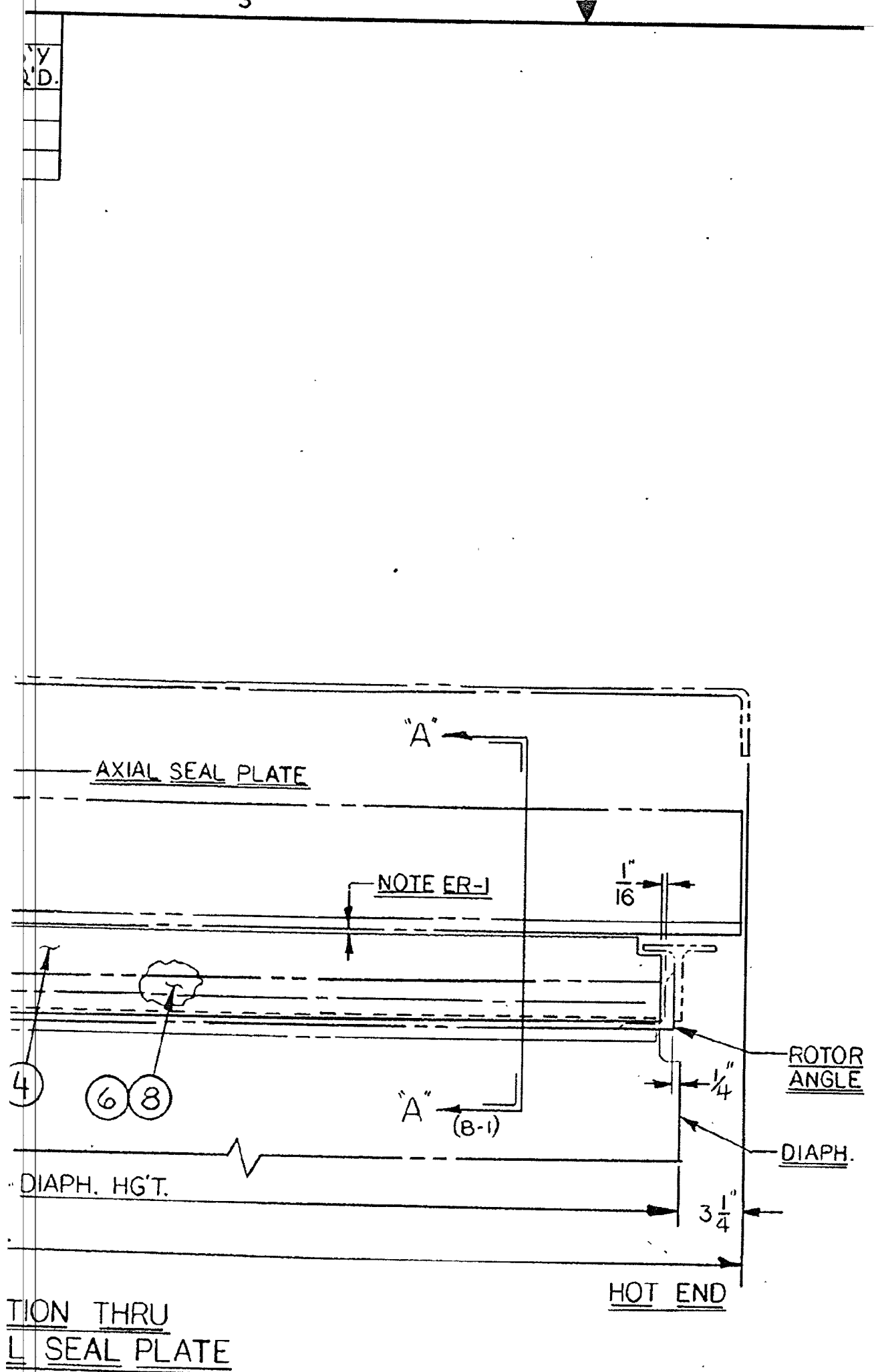
- ER-1 REFER TO SEAL INSTALLATION & SETTING DRAWING SPECIFIED IN GROUP 2106.
ER-2 NOTCH FORMED HOLDING STRIP TO FIT AT ASSEMBLY.



SECTION "A-A" (B-3)
AS VIEWED FROM HOT END

2 LAYER SIDE REMOVAL - DEF. SECTOR PL.

SUPERSEDED BY	Subject	AIR PREHEATER		 PROCESS EQUIPMENT		CE AIR PREHEATER WELLSVILLE, NEW YORK			
	Model / Arrg't	MOD.				AXIAL SEAL ASSEMBLY			
	Size, Type Series	32 1/2 - 34 VI.							
	Des.		Ch.	9"-CLEAR PIN LENGTH					
SUPERSEDES	Dr.	KAT	Ch. DV	DRAWING NUMBER					
	Tr.		Ch.						
	Material			ER 80100 (M)					
	Stk. No.								
DATE 3-15-83		SCALE NTS		WT.	SHEET OF				



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T A B U L A T I O N

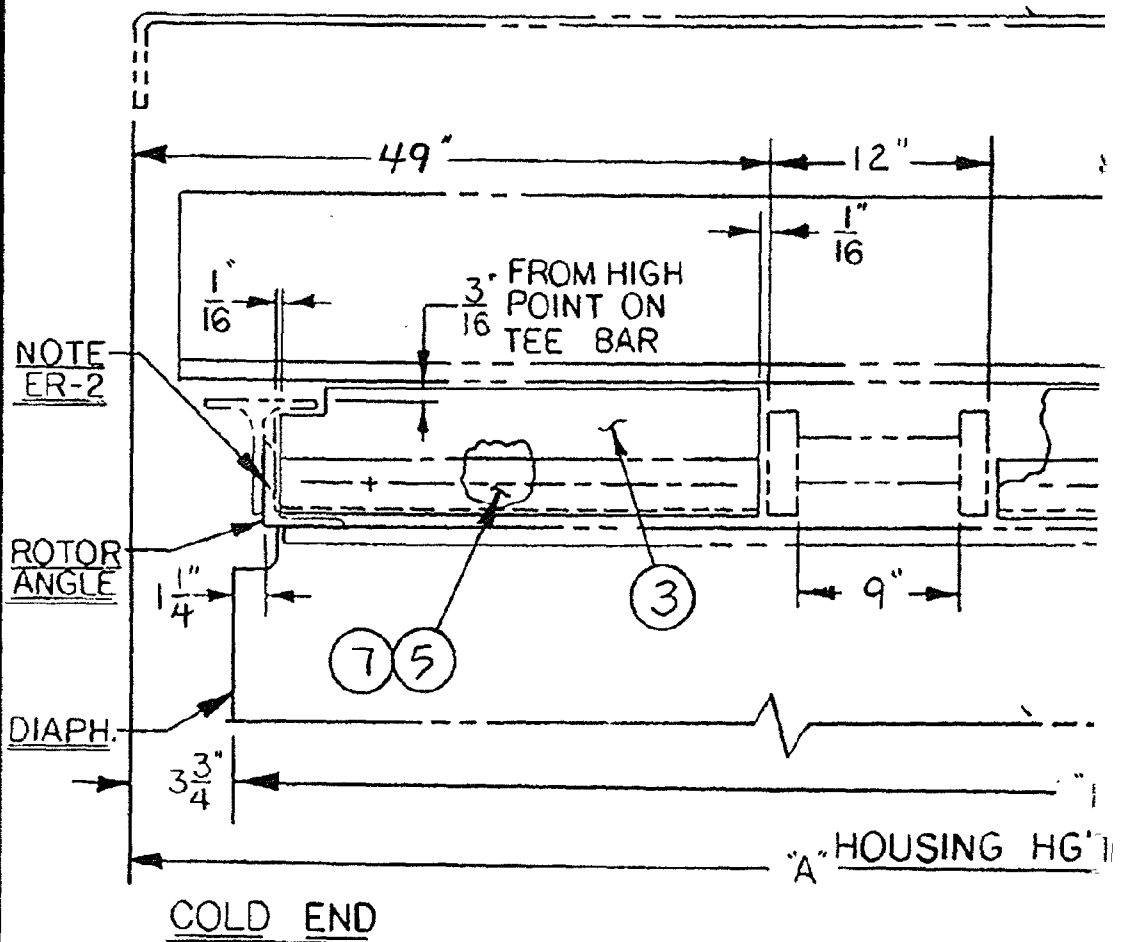
ASS'Y. REQ'D.	ASS'Y. NO.	TAB "A"	TAB "B"	TAB "C"	TAB "E"	TAB "F"	TAB "G"	TAB "H"	APPROX. WGT.	ASS REQ
	1	105"	98"	336	1	2	7	8		
	2									
	3									

D

C

B

A



TYPICAL SEC
CENTER OF AXIAL

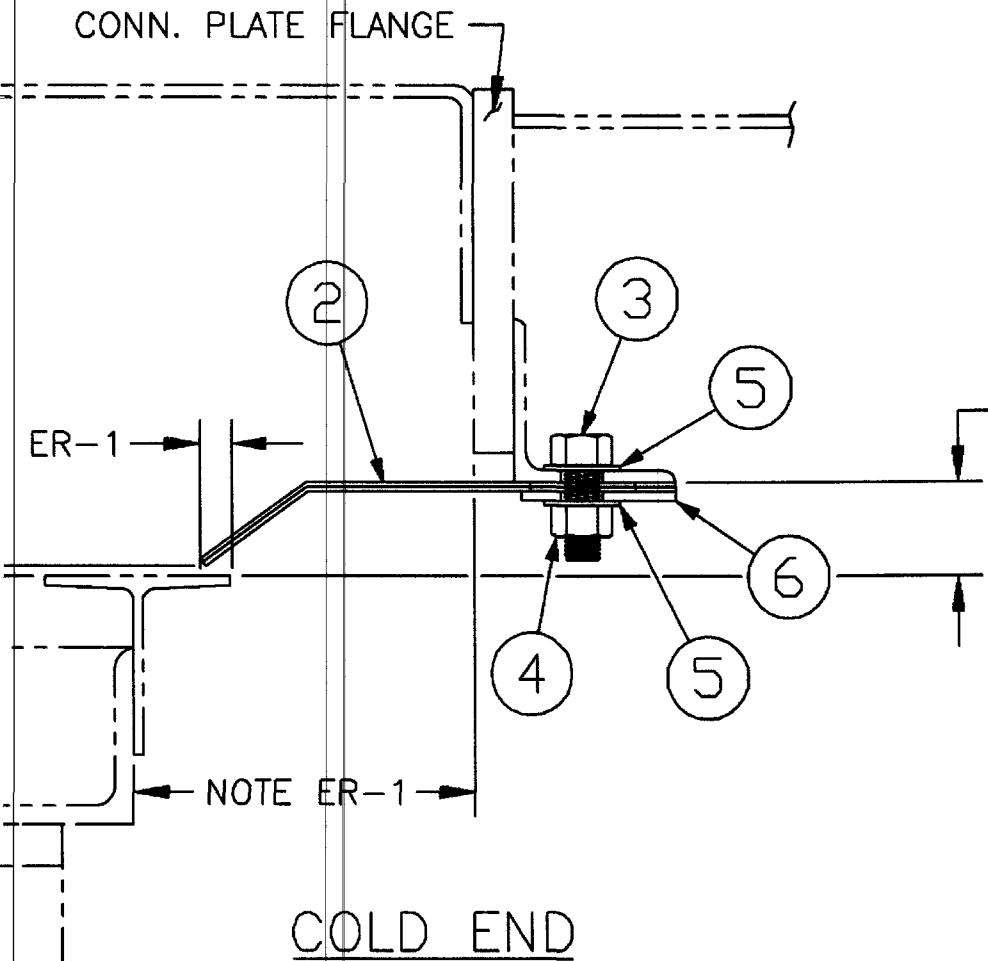
J			
I			
H			
G			
F			
E			
D			
C			
B			
A			
MARK	DATE	ALT.	CKD.
ALTERATIONS			

BILL OF MATERIAL						
REF	DRAWING NO.	QTY.	MATL	DESCRIPTION		S.L.
1	B-99296	TAB "N"		BYPASS SEAL (HOT END) ASSEMBLY # "R"		SL
2	B-99296	TAB "N"		BYPASS SEAL (COLD END) ASSEMBLY # "R"		SL
3	P-12-25404	TAB "P"	3201	.63" X 1.5" HEX. HD. CAPSCREW		SL
4	P-10-25412	TAB "P"	3205	.63" FIN. HEX. NUT		SL
5	P-10-25413	TAB "Q"	3214	.63" WASHER		SL
6	E-67599	TAB "S"		BYPASS SEAL HOLDING STRIP		SL

NOTES TO ERECTOR:

- ER-1 REFER TO SEAL INSTALLATION & SETTING DRAWING SPECIFIED IN GROUP 2106 AND GROUP 7000 SHEET.
- ER-2 LINE UP FIRST BYPASS SEAL WITH HOLES IN CONNECTING PLATE SEAL ANGLE. TRIM SEALS TO FIT AGAINST SEAL PLATE AND SECTOR PLATE.


(A)



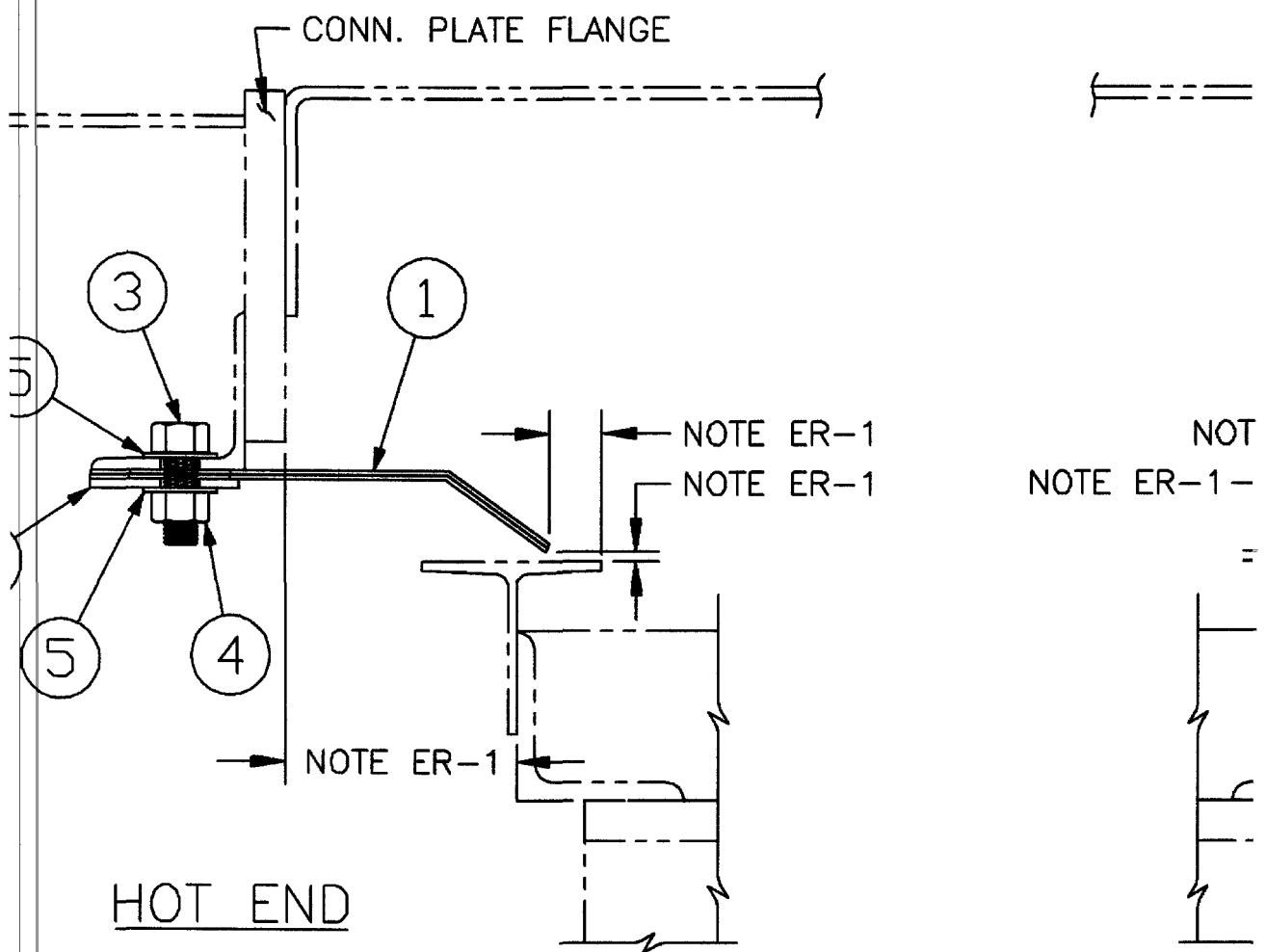
1.75" NOM. (44mm)
DOES NOT INCLUDE
SEAL CLEARANCE
NOTE ER-1

BYPASS SEAL

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SUPERSEDED BY	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED	 THIRD ANGLE	ALSTOM ALSTOM Power Inc. Air Preheater Company Wellsville, New York					
	SUBJECT AIR PREHEATER		EE-ZEE(TM) BYPASS SEAL FIELD ASS'Y.					
SUPERSEDES	API NO.							
	SIZE V-VI-H							
	DR CRW	CK DPV	CODE	GROUP	SIZE	DWG NO.	REV	
	APPR. BY		ER	0505	C	99297	A	
	DATE 02-11-2000		SCALE NTS		WT		SHEET OF	

3



TYPICAL SECTION SHOWING

W:\STANDARDS\DRAWINGS\STD

3



IP7_033846

TABULATION							
ASS'Y. NO.	HEATER SIZE	TAB "N"	TAB "P"	TAB "Q"	TAB "R"	TAB "S"	APPROX. WEIGHT
1	24.5	22	176	352	1	44	650#
2	25	22	176	352	2	44	650#
3	25.5	24	192	384	3	48	710#
4	26	24	192	384	4	48	710#
5	26.5	26	208	416	5	52	770#
6	27	26	208	416	6	52	770#
7	27.5	28	224	448	7	56	830#
8	28	28	224	448	8	56	830#
9	28.5	34	272	544	9	68	1040#
10	29	34	272	544	10	68	1040#
11	29.5	36	288	576	11	72	1100#
12	30	38	304	608	12	76	1160#
13	30.5	40	320	640	13	80	1220#
14	31	40	320	640	14	80	1220#
15	31.5	42	336	672	15	84	1280#
16	32	44	352	704	16	88	1345#
17	32.5	46	368	736	17	92	1525#
18	33	48	384	768	18	96	1590#
19	33.5	50	400	800	19	100	1665#
20	34	54	432	864	20	108	1790#
21	34.5	56	448	896	21	112	1900#
22	35	60	480	960	22	120	2023#
23	35.5	62	496	992	23	124	2090#
24	36	64	512	1024	24	128	2156#
25	29	34	272	544	25	68	1040#

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A	3-6-03	JRC	JRC	REMOVED SEQ. NOTES, ADD ALSTOM BORDER
MARK	DATE	DR.	CK.	DESCRIPTION
ALTERATIONS				

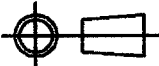

/STANDARDS/DRAWINGS/STD/

DECIMAL	FRACTIONAL EQUIVALENT
0.03	1/32
0.06	1/16
0.09	3/32
0.13	1/8
0.16	5/32
0.19	3/16
0.22	7/32
0.25	1/4
0.28	9/32
0.31	5/16
0.34	11/32
0.38	3/8
0.41	13/32
0.44	7/16
0.47	15/32
0.50	1/2

DECIMAL	FRACTIONAL EQUIVALENT
0.53	17/32
0.56	9/16
0.59	19/32
0.63	5/8
0.66	21/32
0.69	11/16
0.72	23/32
0.75	3/4
0.78	25/32
0.81	13/16
0.84	27/32
0.88	7/8
0.91	29/32
0.94	15/16
0.97	31/32
1.00	1

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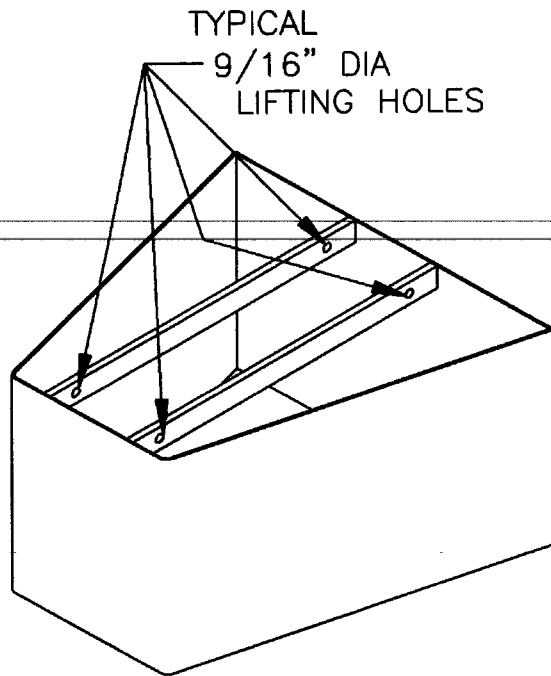
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MARK	DATE	DR.	CK.
ALTERATIONS			

SUPERSEDED BY	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED		 THIRD ANGLE		 ABB AIR PREHEATER, INC. WELLSVILLE, NEW YORK					
	SUBJECT					DECIMAL TO FRACTIONAL REFERENCE TABLE				
	AIR PREHEATER									
	API NO.									
	SIZE V-VI-H									
SUPERSEDES	DR VB		CK		CODE	GROUP	SIZE	DWG NO.	REV	
	APPR. BY				ER	2200	E	98856		
	DATE 06-30-99				SCALE NTS		WT		SHEET OF	

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03062597

W:\STD\BASKETS\LIFTING



TYPICAL LIFTING ARR'G'T.

NOTES TO ERECTOR:

BASKETS TO BE LIFTED WITH 4 POINT LIFT. LIFTING HOLES ARE PROVIDED IN HOLDING BARS FOR CLEVISES OR SHACKLES.

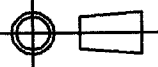
SIZE CLEVISES OR SHACKLES FOR A MAXIMUM 2400 LB. BASKET WEIGHT.

LIFTING EQUIPMENT FURNISHED BY OTHERS.

TO BE USED ON 90 DESIGN AND FULL WRAPPER BASKETS ONLY.

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MARK	DATE	DR.	CK.
ALTERATIONS			

SUPERSEDED BY	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED		 THIRD ANGLE		ALSTOM ALSTOM Power, Inc.				
	SUBJECT		LIFTING ARRANGEMENT			Air Preheater Company Wellesville, New York			
	AIR PREHEATER								
	API NO.								
	SUPERSEDES	SIZE V-VI		CODE		GROUP	SIZE	DWG NO.	REV
DR BLM		CK CU	ER	0200	E	99502			
APPR. BY CU									
DATE 06-23-00		SCALE NTS		WT		SHEET	OF		

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